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THE DESERT THREAT IN THE SOUTHERN GREAT PLAINS

THE HISTORICAL IMPLICATIONS OF SOIL EROSION

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Humanity, like animals and plants, has its roots in the soil.¹ As the soil goes, so ultimately goes the society that is based upon it, and the intelligence that people display in the use of the land is an index of their civilization. The most serious threat to the security of the United States today, and for the future, is not communism, fascism, finance-capitalism, or militarism, but soil depletion.

Soil depletion and consequent social discontent are not new in American history, nor can they be dissociated from the main political and economic issues. Nathaniel Bacon, Daniel Shays, and Edmund Ruffin were but forerunners of the bellicose cotton farmers of 1861, the Populists of 1890, and the agrarian "dolees" of 1940. Today, with foreign trade fast declining, technology making fewer farmers necessary, and agricultural resources constantly dwindling, some statesmen still advocate putting the unemployed on farms.

Better land and more land has been the ceaseless pursuit of peoples from earliest times. It was land hunger that brought most of the migrants to America; and it was the same hunger that made the westward-moving farmer destroy the forest, the beaver, the Indian, and the buffalo. As long as there was new land to occupy, the devastating farmer constantly sought new acreage. Today there is none to be had save marginal areas which have been rejected or abandoned at least once; there is no escape from a ruined farm to a virgin tract. The rape of the American soil is over. Hereafter, only by the most assiduous and careful conservation can the farms be kept fertile.

The historical profession, with notable exceptions, has neglected this vital issue in its teaching and writing. It has been too much concerned with the deserts of the Orient rather than the Dust Bowl of today, with the poor whites of 1840 rather than those of 1940, and with the bread and circuses of ancient Rome rather than the bread and cinemas of the New Deal. As a result, contemporary problems like soil erosion that need immediate and skillful attention have been left largely to the news reporter, the special-feature writer, or the sociologist, the geographer, the botanist, and the agrologist. Soil depletion is a world-wide social, economic, and political problem, and one which challenges every historian who is as interested in the present as in the past. For these

¹ This article was presented with the title, "Soil Erosion: The Desert Threat in the South Plains Area," at the session on Regional Problems within the Great Plains Area of the Mississippi Valley Historical Association at Memphis, Tenn., on Apr. 21, 1939.

reasons, therefore, a survey of conditions in the South Plains where erosion has proceeded at a very rapid rate is of special pertinence.

It is an irony of history that the region of the Louisiana Purchase and north Texas (the pre-1850 Texas) was regarded as largely a desert by most people east of the Mississippi River for the greater part of the nineteenth century. It is an even greater irony that the farmer-migrant had already commenced to make the region a desert in reality by the end of the seventies when the myth had been almost completely eradicated.

In view of the fact that the reports of the explorers were misleading and the maps inadequate, it is not surprising that this popular delusion even misled many of the Nation's leaders. Little discrimination was made, either by statesmen or the public, between grassy and grassless areas, if timber was lacking, or, for that matter, between the lands east and west of the Rockies. Moreover, the word "desert" was applied rather indiscriminately to areas ranging from prairies covered with luxuriant 5-foot grass to stretches of herbless, sunbaked sand. Jefferson, for instance, referred to the swamps, sloughs, and prairies of lower Louisiana Territory as "immense and trackless deserts."² Monroe described the prairies of the Old Northwest as bushless, "miserably poor" country in 1786, but did not repeat the error in referring to the trans-Mississippi West.³ Jackson and Benton do not seem to have shared the popular delusion,⁴ but Calhoun and Jefferson Davis accepted, with reservations, the inevitability of an arid strip, averaging from two to four hundred miles wide, from Canada to below the thirty-second parallel.⁵ When Davis bought seventy-five camels

² U. S. Dept. of State, *American State Papers, Miscellaneous*, 1:345 (Washington, 1834)

³ Monroe to Jefferson, Jan. 19, 1786, in *Writings of James Monroe*, 1:117 (New York, 1898); James D. Richardson, ed., *A Compilation of the Messages and Papers of the Presidents*, 2:235-236 (Washington, 1896).

⁴ Seventh annual message on Dec. 7, 1835, in Francis Newton Thorpe, ed., *The Statesmanship of Andrew Jackson as Told in his Writings and Speeches*, 433-435 (New York, 1909); Richardson, *Messages and Papers*, 3:171-172; *Register of Debates in Congress*, 20 Congress, 1 Session, Apr. 9, 1828, p. 610.

⁵ Calhoun and Webster were at least partly convinced by the overemphasis on "deserts" made by travelers and explorers. Yet Calhoun reported to President Adams on Jan. 24, 1825, that the area west of Missouri and Arkansas Territory was definitely desirable and fit for the civilized farming Indians, whom he wished to see generously treated. *American State Papers, Indian Affairs*, 2:543-544 (Washington, 1834). His long speech on the Oregon Bill in the Senate on Jan. 24, 1843 gives no intimation that he even thought that any part of the West was a desert. See Richard K. Crallé, ed., *Speeches of John C. Calhoun*, 4:238-258 (New York, 1854).

On the other hand, John Ross, speaking for the Cherokees on Apr. 15, 1824, refused to force his agricultural people to become hunters again. He informed the United States Senate that he understood the region to which the Government wished to remove them was a "barren waste." *American State Papers, Indian Affairs*, 2:502 (Washington, 1834). On Nov. 12, 1824, a Choctaw delegation objected to moving west of the Kiamichi River to an area which they characterized as "nothing but prairies." They did not wish that "our people should always live by hunting." See *ibid.*, 550. On Jan. 25, 1825, Calhoun wrote to H. W. Conway, the delegate from Arkansas Territory, that the Choctaws objected to moving west of the newly established Arkansas line, because the land was "so destitute of

for the Government to use in the West, he certainly helped convince the public that the desert was a reality.⁶ Other salesmen for the desert idea were travel writers like Henry M. Brackenridge, Edwin James, and Abbe Domenech;⁷ historical fictionists like Washington Irving; traders like Josiah Gregg;⁸ anonymous news writers who wrote up newsworthy, and therefore exceptional, items;⁹ guidebook compilers;¹⁰ textbook writers; map makers;¹¹ sentimentalists who hated to see the Indians removed to the "desert"; and gossipers of infinite variety who let their imaginations enlarge a small salt plain or sandy stretch into one of tremendous size. Probably Colonel Philip Cooke's report that it was 114° in the August shade at Fort Gibson in eastern Oklahoma made many converts.¹²

At all times, there was, however, considerable evidence that the treeless plains were not a desert, and the delusion started to disappear in the late fifties. Certainly by the late sixties, the Santa Fe traders, the forty-niners, the railroaders, the stock raisers, and the cattle drivers had made too much information available, and the Texan, Mexican, and Civil wars had focused attention too strongly on the Southwest, for even the popular misconception to endure any longer.¹³ Perhaps the giant and influential volume by L. P. Brockett on *Our*

timber, and of such sterile soil, as to render it unfit for agriculture." See *ibid.*, 557. It would appear that Calhoun either did not believe, or refused to admit he believed, the area was barren. See his letter of Jan. 24, 1825, to the President in *ibid.*, 543.

⁶ "Report of the Secretary of War communicating, in compliance with a Resolution of the Senate of February 2, 1857, Information Respecting the Purchase of Camels for the Purposes of Military Transportation," 34 Congress, 3 Session, *Executive Document 62* (Washington, 1857).

⁷ Henry M. Brackenridge, "Journal of a Voyage up the River Missouri Performed in Eighteen Hundred and Eleven (Baltimore, 1816)," in Reuben Gold Thwaites, ed., *Early Western Travels, 1748-1846*, 6:155, 160-161 (Cleveland, 1904); Edwin James, "Account of an Expedition from Pittsburgh to the Rocky Mountains . . . under Major S. H. Long (Philadelphia and London, 1823)," in *ibid.*, 16:174, 17:191-200; Abbe Domenech, *Seven Years Residence in the Great Plains of North America*, 1:151, 152 (London, Longmans, Green & Co., 1860), called everything desert from Fort Smith to the Gulf of California between 34 and 36 degrees north latitude.

⁸ Washington Irving, *Astoria*, 216 (rev. ed., 1859); and Josiah Gregg, *Commerce of the Prairies*, 39, 44, 51, 224, 229, 345-346, 352-353 (Dallas, 1933).

⁹ See item in *Niles' Weekly Register*, 25:357 (Feb. 7, 1824); repeated in *ibid.*, 35:70 (Sept. 27, 1828).

¹⁰ Colton's *Traveler and Tourist's Guide Book*, 55-56 (New York, 1856) reported the "middle section" of Kansas Territory as "absolutely desert," while Nebraska Territory, in contrast, was well watered and would soon be a "productive granary" and filled with "villages" devoted to industry.

¹¹ Walter Prescott Webb, *The Great Plains*, 152-160 (Boston, 1931). See map in William M. Thayer, *Marvels of the New West*, 220 (Norwich, Conn., 1887). The wife of Governor Charles Robinson of Kansas Territory was delighted to find a country "beautiful beyond all comparison" instead of the desert she had studied in geography. See Sara Robinson, *Kansas*, 2-4 (Boston, 1856).

¹² Philip St. G. Cooke, *Scenes and Adventures in the Army*, 225-227 (Philadelphia, 1857).

¹³ See Ralph C. Morris, "The Notion of a Great American Desert East of the Rockies," *Mississippi Valley Historical Review*, 13:190-200 (September 1926) for the rise and decline of the illusion.

Western Empire which appeared in 1881 gave the *coup de grâce* to the delusion, except for obscurantist writers like Eli Perkins, George Buckman, and William Bickham. In any event, it was obvious that the 962,000 people who went to Kansas and Nebraska in the seventies, and the 800,000 who settled in Texas in the same decade could not all have become desert nomads.¹⁴

The farmer migration after 1870 soon proved that, given rain, practically every part of the plains could be made to produce crops or support cattle. In fact, most of the settlers, finding the land fertile, began to farm it with customary abandon. Hence, ere the imaginary desert had been banished from the mind of the Ohio schoolboy, his uncles were actually creating one in Kansas.

The National Resources Planning Board has estimated that 3 billion tons of soil are washed or blown out of the fields of the United States every year. That is enough to load a train of freight cars 475,000 miles long, a distance sufficient to girdle the earth nineteen times at the equator. Furthermore, it is not merely the amount of soil lost, but the quality, that must be considered. In the spring of 1937, when a dust storm threatened to blow all the loose soil of the region which has come to be known as the Dust Bowl over into Canada, an experiment, made in Iowa, showed that the dust from the Dalhart dune area in the Texas Panhandle contained ten times as much organic matter, nine times as much nitrogen, and nineteen times as much phosphoric acid as the sandy residuum at Dalhart. The 3 billion tons of topsoil washed or blown away annually contain sixty times as much plant food as is restored to the soil in the same period by commercial fertilizers.¹⁵

Hugh H. Bennett of the Soil Conservation Service has estimated that it takes from six hundred to a thousand years to build up an inch of topsoil. A few years of indifferent farming can run off 6 inches of topsoil—the product of five thousand years of creation—and no one is the wiser except perhaps the farmer and he is not much concerned unless he owns the farm. The mass of the citizenry are unaware of the tragedy; they may work themselves into a passion if a child in Massachusetts refuses to salute the flag, but they are utterly indifferent to the irreplaceable loss of the very stuff of which they are made. Moreover, the loss of soil is a social and intellectual tragedy as well as an economic one; "soil decadence is usually followed by social and political decadence." Mineral deficiency in vegetation, animals, and man inevitably springs from soil depletion.¹⁶

The twenty-four thousand farms in the Dust Bowl that should never have been plowed are but one sore spot on the body of the country. As yet no one

¹⁴ L. P. Brockett, *Our Western Empire*, 38, 39, 46, 49, 50, 64, 1124 (Philadelphia, 1881).

¹⁵ Hugh H. Bennett and W. C. Lowdermilk in U. S. Department of Agriculture, *Yearbook*, 1938, p. 590-591, 595, and notes 5-7; Russell Lord, *Behold Our Land*, 46 (Boston, 1938). This volume is a redaction of the same author's "To Hold This Soil," U. S. Department of Agriculture, *Miscellaneous Publication 321* (Washington, 1938).

¹⁶ Lord, *Behold Our Land*, 25-26, 45-46; *Time Magazine*, 36(21):59 (Nov. 18, 1935).

has counted the others that mark the devastation wrought by the westward movement or estimated the total number of ruined acres in the entire country. About half of the Nation's arable land is now cultivated, and every year thousands of acres pass into the class of land permanently ruined for agriculture. Farming in the Great Plains is contributing to this devastation at an unparalleled rate. Fortunately pictures and surveys are now bringing the appalling destruction visited on once fertile areas to public attention.

Oklahoma is one of the worst eroded States in the Union; while Texas has suffered the greatest loss in land value. The nature of the soil, the character of the rains, the heavy winds, and cotton cropping are some of the causes of this condition. Seventy percent of all farms in Texas and 42 percent of those in Oklahoma are devoted to cotton. Since the Hawley-Smoot Tariff, only mineral wealth and diversification of crops have kept these States relatively prosperous. The real pinch will come when their oil is gone and they have to depend more exclusively on agriculture.¹⁷

The soils of Oklahoma, although only tilled for an average of thirty seasons, have felt particularly the ravages of erosion and crop depletion. When crops decline, farms are abandoned, and then they tend to gully and sheet erode almost as fast as when cultivated. About 45 percent of Oklahoma has suffered a loss of more than three-fourths of its topsoil, a loss valued at twenty-five million dollars a year. Over 50 percent of the State's land is gullied and is, therefore, potentially ruined. Except for the river bottoms, the north-central sixteenth (Garfield, Alfalfa, Grant, and Kay counties) is the only part in cultivation that is not seriously eroded.¹⁸ Data collected at the Guthrie Erosion Experiment Station show "that the water run-off from land cultivated continuously to cotton was 11 times greater and the soil loss 760 times greater than from the same kind of land covered with ungrazed Bermuda grass (6-year average 1930-35)."¹⁹ In the last thirty years, the cotton yield in Oklahoma has dropped from 239 to 133 pounds per acre. Soil depletion is the basic cause of this decline, but there

¹⁷ Meredith F. Burrill, "Geography and the Relief Problem in Texas and Oklahoma," in *Southwestern Social Science Quarterly*, 17:297, 300 (December 1936); and *Texas Almanac*, 1939-40, p. 180. Cotton acreage increased 40 percent in Texas and Oklahoma between 1915 and 1930, augmenting their total cultivated acreage by 17 percent. See P. G. Beck and M. C. Forster, *Six Rural Problem Areas*, 23 (Federal Emergency Relief Administration, *Research Monograph 1*, Washington, 1935). Since 1930, cotton acreage in Oklahoma has dropped from a peak of 5 million acres to a low of 2 million in 1939; for years the second ranking State in production, her 500,000 bales put her in eighth place and below Missouri and California which are not even considered cotton-producing States. See Clarence Roberts, editor of the *Farmer Stockman*, in the *Daily Oklahoman*, Nov. 26, 1939.

¹⁸ National Resources Board, *Soil Erosion; A Critical Problem in American Agriculture; Part 5 of the Supplementary Report of the Land Planning Committee*, 82 (Washington, 1935); Oklahoma State Planning Board, *A Compendium of Maps and Charts Pertaining to State Planning in Oklahoma*, April 1936, p. 34-35; E. M. Rowalt, "Soil Defense in the South," U. S. Dept. of Agriculture, *Farmers Bulletin 1809*, p. 60-64 (Washington, 1938).

¹⁹ U. S. Department of Agriculture, *Yearbook*, 1938, p. 105.

will be a temporary upturn when the drought breaks. Rains, however, do not build soil.²⁰

Soil conditions in Texas are only slightly less appalling. The Black Prairie of the east-central section, like the blackjack areas of Oklahoma, is highly erosive. It has been farmed for only fifty years, yet is particularly endangered by sheet erosion. The Grand Prairie with 7 million acres which lies west of the Black Prairie has suffered considerably. It can probably be saved, however, because it is relatively level and is now being scientifically handled by the farmers in cooperation with the Soil Conservation Service. West of the Grand Prairie lie the West Cross Timbers with another 7 million acres. Due to continuous cotton cropping, 30 percent of this area has lost from one-fourth to three-fourths of its topsoil. Now, diversification of crops and serious efforts at erosion control have largely stopped the damage. All told, erosion has ruined but 10 percent of the total area of Texas as compared with 49 percent in Oklahoma. However, another 46 percent in Texas has lost from one-fourth to three-fourths of the topsoil, compared to another 18 percent in Oklahoma.²¹

The Dust Bowl (the forty counties within a radius of 160 miles of Guymon, Texas County, Oklahoma, including the Texas and Oklahoma panhandles and several counties of southwestern Kansas, southeastern Colorado, and northeastern New Mexico) is the prime example of what is bound to occur if farming is continued on the High Plains. The dust storm of March 11, 1939—probably the worst in history—took enough soil from the Dust Bowl into Oklahoma alone to cover 5 million acres a foot deep, assuming that the fall over the entire State was as great as at Stillwater.²² The experiences of the farmers in the Dust Bowl during the past few years have proved the utter impracticability of intensive farming in most of the region. It is fit, or will be when regressed, only for grazing and forage crops. Unfortunately, the best sod has been turned under.²³ Until it is resodded even stock raising will be no small gamble, for half the stock may be wiped out by a single black blizzard. The chief reason why more of the High Plains is not like the area near Dalhart, Hartley, Boise City, and Richfield is that it has not been plowed.

Of the 16 million acres comprising the heart of the Dust Bowl, 40 percent is being farmed, 9 percent is idle, and 51 percent is in grazing. Over half is seriously or dangerously eroded, and the damage varies from 20 percent in Oldham County, Texas, to 78 percent in Morton County, Kansas. Distributed according to present use, 79 percent of the cultivated lands, 89 percent of the idle lands, and 27 percent of all pasture lands are "seriously" eroded. Most of the farms in the area have had three or more sets of farmers since 1900. One group left during the first dry period, 1908-12; the second during 1920-25; and the third since 1932. The farmers who still remain praise God for the recent showers and

²⁰ Clarence Roberts in *Daily Oklahoman*, Nov. 26, 1939.

²¹ Rowalt, "Soil Defense in the South," 52-60; National Resources Board, *Soil Erosion . . . Supplementary Report*, 88-89. See estimates by L. P. Merrill in *Texas Almanac*, 1939-40, p. 130.

²² W. B. Gernert in *Daily Oklahoman*, Mar. 19, 1939.

²³ Rupert N. Richardson, "Some Historical Factors Contributing to the Problems of the Great Plains," in *Southwestern Social Science Quarterly*, 18:12 (June 1937).

snows and rush to plant another crop, but many of them will be on relief within five years.²⁴

The social and economic complications of the area may be more carefully delineated by using Dallam County, Texas, as an example. It had 106 people in 1900 and 4,000 in 1920; the population is now about 8,000. Half of the land has been plowed, but one-third of this has been abandoned. One-fourth of the rural dwellings are empty. The indebtedness of the county is \$10.24 per acre, plus interest. The Federal and local loans and grants total 90 percent of the assessed valuation. Pasture nominally rents for 15 cents an acre—it takes 30 acres per steer—but pasture cannot be rented at that figure, because the annual debt payment is 65 cents an acre, plus 8 cents for taxes. Dallam County is, no doubt, overpopulated, overfarmed, overstocked, and overtaxed. The only people who can prosper are those who foreclose or buy at ruinous rates and resell to unwary newcomers when there is a good crop. Not all counties in the South Plains, nor in the Dust Bowl, are as unfortunate as Dallam, but it is a sample of how overextension of credit and unwise farm practices destroy the settler along with the sod and the soil.²⁵

Dune formation and the killing of timber are two other manifestations of wind erosion that need to be mentioned. Already there are 15,000 acres of semisterile sand dunes in the Great Plains region, mostly in or near the Dust Bowl. Dunes are emblematic of destroyed farms and departed topsoil; moreover, they usually cover up good soil. The Soil Conservation Service has learned how to level off and control them with soil-holding grass crops, but the wind can erect them faster than they can be reduced, unless the farming is either largely stopped or scientifically conducted.²⁶

The effect of silting on the trees along the North Canadian River has been studied, and it is evident that millions of trees are being killed in this way. This is true not only in river courses, but wherever sand is piled to a depth of several feet over the roots of the trees, either by wind or water. This silting is definitely a byproduct, but nevertheless a serious one.²⁷ The 24 million trees that were planted in the Texas-Oklahoma shelterbelt before May 1938 can hardly be expected to live through many sandstorms.²⁸

Chief among the causes of the depletion of the soil in the plains region is the failure of the plainsman and his creditors to cooperate with nature. After a few years, "the plow that broke the Plains" broke almost everybody who had

²⁴ Arthur H. Joel, "Soil Conservation Reconnaissance Survey of the Southern Great Plains Wind-Erosion Area," U. S. Department of Agriculture, *Technical Bulletin* 556, p. 2-3, 14-16, 19, 46 (Washington, 1937).

²⁵ E. D. G. Roberts, and others, *A Physical Basis for Tax and Mortgage Delinquencies in Dallam County, Texas*,—a 173-page mimeographed report consisting chiefly of maps and tables.

²⁶ Charles J. Whitfield, "Sand Dunes of Recent Origin in the Southern Great Plains," in *Journal of Agricultural Research*, 56:907, 916 (June 15, 1938).

²⁷ Horace J. Harper, "Effect of Silting on Tree Development in the Flood Plain of Deep Fork of the North Canadian River in Creek County," *Oklahoma Academy of Science, Proceedings*, 18:46-49 (Norman, 1938).

²⁸ U. S. Dept. of Agriculture, Forest Service, Prairie States Forestry Project, *Trees That Temper the Western Winds* (Washington, 1938).

held it. The region west of the ninety-eighth meridian has little precipitation, a high rate of evaporation, strong winds, hot summers, and friable soil. The farmer who took a chance on a crop during the World War may have "cashed in," but, if he continued on the land afterward, he is probably bankrupt today. For the plains of Oklahoma and Texas, the weather of an entire growing season is unpredictable. The evidence deduced from the tree rings of the region does not substantiate the idea of 7-year cycles of which the farmers speak.²⁹ Equally unreliable is the conclusion of the university professor who "proved" that plowing and cultivating the soil caused rain.³⁰ The belief of the Indians and many whites as well that burning the prairies brought rain is in the same category.³¹ Oklahoma west of the ninety-eighth meridian has had eleven failures of 50 percent or more in the last thirty years.³² These will unquestionably increase rather than decrease as more of the sod is broken and more effort expended to wrest a profit from land largely unsuited to cultivation.³³

Farm tenancy is a very important factor in soil depletion. Tenants cannot be, and are not usually expected to be, interested in conserving the soil. Since Oklahoma gained statehood in 1907, over half of its farms have been operated by tenants. In 1910, the number of tenant farms was 55 percent; by 1935, it was 62 percent. The remaining farms were not owned outright; the actual equity was only 29 percent. The percentage of tenancy in Oklahoma and Texas is considerably higher than for the rest of the United States, but there is no reason to expect it to decrease under present conditions.³⁴ Between 1930 and 1935, 112,000 people in Texas and 71,000 in Oklahoma went back to farms. Most of them became tenants on so-called submarginal lands, and most of them are, or soon will be, on relief.³⁵ Those who took up small subsistence homesteads, especially on the High Plains, are in a no less precarious situation than they were while sitting in town, waiting for factories to open. When a Kansas farm of 640 acres—probably the smallest feasible unit for the plains west of the ninety-eighth meridian—produces an average annual net income of only \$35 over a 20-year period, augmented by one season when the crop brought \$20,000, it is no wonder that the West Coast is being flooded with migrants or that the Government is forced to loan some \$150,000,000 a year in the Great Plains.³⁶

²⁹ R. S. Campbell, "Climatic Fluctuations," 140-142, in *The Western Range* (74 Congress, 2 Session, *Senate Document 199*, Washington, 1936); Warren Thornthwaite, "The Great Plains," in Carter Goodrich, and others, *Migration and Economic Opportunity*, 223 (Philadelphia, 1936).

³⁰ Lord, *Behold Our Land*, 193; J. F. Kinney, Indian agent at Yankton, in U. S. Commissioner of Indian Affairs, *Report*, 1884, p. 58.

³¹ S. N. Carvalho, *Incidents of Travel and Adventure in the Far West with Colonel Fremont's Last Expedition*, 48 (Cincinnati, 1857).

³² Oklahoma State Conservation Commission, *Biennial Report*, Jan. 15, 1937, p. 9.

³³ See Webb, *The Great Plains*, 17-26, 319-382, for an excellent discussion of the climate.

³⁴ Oklahoma State Planning Board, *Preliminary Report on State Planning*, 1936, p. 39-41; U. S. Dept. of Agriculture, *Yearbook*, 1938, p. 9. For Texas, see *Texas Almanac*, 1939-40, p. 92.

³⁵ Burrill, "Geography and the Relief Problem in Texas and Oklahoma," 295-296.

³⁶ Thornthwaite, "The Great Plains," 232, 234. "Benefit payments" in Oklahoma alone for 1933-39 totaled \$150,000,000. See Clarence Roberts in *Daily Oklahoman*, Jan. 7, 1940.

Certainly the Agricultural Adjustment Administration has not solved any problem by paying landlords bonuses for not raising crops and permitting them to turn off their labor. The three hundred Negroes hired to pick the 1937 cotton crop in Cochran County, Texas, is a case in point. The following winter, they were herded into dugouts and maintained at public expense. Their plight was accentuated when the cotton allotment of the county for 1938 was cut in half, and the crop actually fell off two-thirds.³⁷

The number of families on relief in Texas, Oklahoma, and Kansas constitute at least 10 percent, and a movement to the farm is hardly the answer to unemployment. It seems unquestionable that the High Plains area is overpopulated by at least a third. To permit or induce more people to go into intensive agriculture there is almost criminal.³⁸

Technological improvement is another threat to the prosperity of the small farmer and the individualistic farmer who refuses to cooperate fully with his neighbors. In the last fifteen years, the number of tractors in the Plains region has increased more than 200 percent. The small farm is increasingly at a disadvantage as compared with the large, efficient, mechanized one. Cooperative farming is the only solution of this problem, especially if the small farmer insists on a one-crop economy.³⁹

Overgrazing is another serious factor in erosion and soil depletion. According to the report of the Great Plains Committee, 95 percent of the range lands in the Great Plains have declined from one-fourth to three-fourths in productivity.⁴⁰ Stock totaling 17,100,000 head are now being grazed on land that should carry only 10,800,000. Three-fourths of the range is still on the downgrade, and it is estimated that a century of careful restoration is needed to make it support the 22,500,000 head it was once capable of doing. Yet today it produces three-fourths of the Nation's wool and mohair, over half of its sheep and lambs (in pounds), one-third of its cattle and calves, and one-sixth of its wheat.⁴¹

Finally, the widespread practice of burning the grass must cease. Nothing, short of plowing, so thoroughly destroys roots and facilitates the breakup of the soil.⁴²

The desert threat in the South Plains is real, but not in the sense that the region is destined to become a sandy Sahara. It may, however, become so unproductive through misuse that it will have to be abandoned, even as parts of

³⁷ Lord, *Behold Our Land*, 272-276. The actual yield for Cochran County fell from 17,466 to 6,620 bales. See *Texas Almanac*, 1939-40, p. 184.

³⁸ Oklahoma State Planning Board, *Preliminary Report*, 1936, p. 182-183; Texas State Planning Board, *Report*, 1936, p. 64; Thornthwaite, "The Great Plains," 243, 245-248. The Oklahoma State Welfare Board reported 360,000—exactly 15 percent of the population—on relief in January 1940. See *Oklahoma City Times*, Jan. 13, 1940.

³⁹ Lord, *Behold Our Land*, 205-207. The number of tractors in Oklahoma increased 800 percent in the last twenty years, and this increase was mostly in the west half of the State. See *Daily Oklahoman*, Apr. 23, 1939.

⁴⁰ 75 Congress, 1 Session, *House Document 144*, p. 5.

⁴¹ Joel, "Soil Conservation Reconnaissance Survey," 14; *The Western Range*, iii-iv, vii-viii; Thornthwaite, "The Great Plains," 231.

⁴² Rowalt, "Soil Defense in the South," 63.

it already have been, unless proper land utilization is achieved. The splendid work being carried on by bureaus of the Federal, State, and local governments is contributing to this end.

Congress, converted by the black blow of 1934 when western dust blew through the Nation's Capital for the first time in history, has willingly granted appropriations. Perhaps the New Deal's most permanent contribution to a planned prosperity was the creation of the National Resources Committee, which seeks to apply scientific methods to the conservation of land, water, and mineral resources. By virtue of the Aerial Photographic Survey, the Flood Control and Irrigation Projects Law, and the splendid extension and demonstration service, much progress is being made. To the recently reconstituted Bureau of Agricultural Economics has been assigned the integration of the various efforts at national conservation, the elimination of duplication and waste, and the putting of conservation on a self-liquidating basis.

The Soil Conservation Service, operating in the twelve regions of the South Plains, has put almost a million acres in demonstration areas.⁴³ The establishment of soil conservation districts by State legislation but with Federal supervision and support is a promising step. Oklahoma has thirty-nine of these districts—more than any other State. Chartered by the State on the petition of twenty-five farmers, and having been approved by a majority of the farm voters in the proposed district, they may enforce conservation practices on minority recalcitrants by court order.⁴⁴

These districts, in actual operation, have been slow in starting due to Federal red tape, have proved too expensive for wide use due to the tendency to expend more for conservation than the land is worth, and have aroused opposition among farmers who are notoriously hard to coerce. In short, the interest of the farmers has been aroused but not satisfied with action, nor has the economic soundness of the plan been demonstrated to them with figures.

In many Oklahoma counties a modification is being developed which overcomes the defects of the soil conservation districts plan. To a committee appointed by the county agricultural council, its president, the county commissioners, the president of the bankers' association, a member of the chamber of commerce, and the county agent are added as ex-officio members. This committee is known as the county conservation and soil resources association. Its members are men whom the farmers know and trust. It supervises conservation practices throughout the county at a very low cost.

In Cleveland County, for example, splendid work is being done under this arrangement. The county has 132,000 tilled acres; 12,000 of these are aban-

⁴³ Glenn K. Rule, "Land Facts on the Southern Plains," U. S. Dept. of Agriculture, *Miscellaneous Publication 334* (Washington, 1939). See also Lord, *Behold Our Land*, 299-303.

⁴⁴ National Resources Committee, *State Planning; Programs and Accomplishments*, 60-61, 76-77 (Washington, 1937); Texas State Planning Board, *Report*, 1935, p. 39, 42, 51; Lip-pert S. Ellis, "The Soil Conservation Districts Law of Oklahoma," *Southwestern Social Science Quarterly*, 19:183-188 (September 1938); U. S. Great Plains Committee, *The Future of the Great Plains*, 80-89, 106, 108, 172-173 (Washington, 1936).

done, and 12,000 more lie idle, chiefly due to erosion. Reseeding and construction of small spreader-dams and diversion ditches under the supervision of the county agent is arresting the destruction. In the last two years, 30,000 acres have been terraced and 5,000 contour-listed, and 120 small lakes and ponds have been built. The farmer or owner pays only for the oil and gasoline consumed by the tractor and for the labor of one or two men. Technical aid is rendered by the county agent and his staff, the assistants being paid from the county's share of the State tractor tax, supplemented by a subsidy from the Norman Chamber of Commerce. The county's machinery and skilled help are available at all times except during the 60 or 70 days they are being used on the roads. The county agent, backed by the county agricultural council, is the real commander-in-chief of these operations. The farmers are much happier co-operating with him than with officials from Washington or Oklahoma City. The Federal and State governments would do well to spend conservation appropriations through the offices of the county agents. A million little dams and lakes and terraces would cost less and do immensely more for the Southwest than, for example, the Red River Dam. Moreover, this is local government of the most vital sort. It is a real example of the fundamental process which must be developed if democracy is to be preserved in America.

Planning, whether Federal, State, or local, is the greatest forward step that agriculture needs to take. Farming is a gamble, especially on the Great Plains, and planning of the highest type is needed. Every State in the Union now has a planning board except Delaware; and Federal, State, and local assistance is available to help every farmer plan his farm. This planning, however, must be integrated. At present the cheapest and most effective base for scientific conservation is the local county unit. The Federal and State governments must support this splendid work.

Education by the schools, the farm organizations, and county and home demonstration is enlightening the farmer and the general public as well. Much remains to be done. Vocational agriculture and 4-H club work should be taught in all high schools, rather than only one-fourth of them. One can scarcely hope to see all the future farmers of America cooperate with their neighbors, cease raising surpluses that cannot be marketed, or depart from present suicidal practices, unless they are taught how and why.

Scientific farming, it may be noted in conclusion, is based fundamentally on three factors: ownership, education, and scientific practice. When ownership problems are worked out intelligently, when every farmer in the land is scientifically trained, and when proper land utilization is planned and established, the soil will be saved. The day of the outlaw farmer who destroys everything he touches in order to barely live is about over. Every slaughtered animal and plant can be replaced if only the soil is saved. If agrarian discontent, continued social degradation, and barbarous dictatorship are to be avoided, every educator must participate in saving the farmers and the soil of America.

WARTIME PROBLEMS OF ENGLISH AGRICULTURE

I. D. BLAIR

Prior to the outbreak of war in 1939, English agriculture was in great difficulties.¹ The boom of the early twenties had been followed by a steady decline in the arable acreage. Farmers were not encouraged to utilize grassland to the extent possible in the light of scientific research. Although less spectacular than the soil erosion and scrub infestation of the Dominions, land deterioration, particularly from the neglect of drainage and maintenance of soil fertility, was widespread. Behind the screen of the incomparable attractiveness of the English countryside, there was another sight—the surprising extent of land abandoned, out of production, or devoid of productivity. The encroachment of urban building projects on excellent farm lands surrounding great population centers continued at an increasing pace during the past twenty years, and in most cases the landowners felt that they were being relieved of a burden in so disposing of unprofitable farm land for city building purposes. To a marked degree, land workers and men skilled in farming arts were being displaced, and the number of small owner-occupiers hampered by lack of capital was increasing. Such impressions and facts do not, however, point to inefficiency insofar as English farmers or farming methods are concerned. Rather, the agricultural difficulties must be viewed in the light of the entire economy of England.

The economic structure involving the exchange of manufactured goods for the raw products of the Empire had been slowly strangling the English farmer, curbing his initiative, preventing full and efficient utilization of the land, and bringing about the deterioration which was rife. The farmer had to realize that his market was dependent on the purchasing power of the urban and industrial worker and that unless manufacture of every kind continued to provide materials to be sold abroad at a profit, the industrial population would not have the means to buy farm produce at a worthwhile price. He had also to realize that his market was greatly influenced by the economic relations of the homeland to the Dominions.

Had it not been for state protection and assistance of one kind or another, there would have been little farming worth calling an industry—only specialists

¹ This article was submitted to the editor on Nov. 18, 1940. During the previous year, the author did agricultural research at the Rothamsted Experimental Station, Harpenden, England. Apart from his research studies which were carried out under the terms of a travelling scholarship of the University of New Zealand, he spent considerable time in the study of aspects of English wartime agriculture, and some of his impressions are embodied in this article. The author is now at the Dominion Laboratory of Plant Pathology, Winnipeg, Manitoba, and has recently received a Visitor's Grant from the Carnegie Corporation of New York to be used for the purpose of contact and observation at university and research centers in the United States.—*Editor*.

producing vegetables, fruit, and milk, and ranchers running sheep and cattle on an extensive system. Before the present war almost every kind of human and animal food could be imported more cheaply than it could be produced in England. In the case of products like butter which sold cheaper than in the country where it was produced it was impossible to compete with the imported article.

Wherever large capital resources were available, farming enterprises could successfully produce commodities which were not easily imported, such as sugar beets, high-quality malting barley, potatoes, milk, and vegetables. In the case of articles like beef and cheese, where the quality was superior, the domestic farmer also had the edge. Livestock farming, it is true, thrived reasonably well with an increase in flocks and herds, but it depended largely on imported concentrated foods, or the ready availability of byproducts of local industry.

The decline in international relations during the two years preceding the war finally forced the British Government to look to the state of its home agriculture with a view to its condition as one of the arms of defense. It was, however, the last arm to receive attention and in the opinion of many it has received the least. The official attitude as expressed early in 1939 was that considerable reserves of imported essentials including wheat, sugar, fats, and stock feeds were to be accumulated. Following this, great confidence was placed in the ability of the Navy to ensure reasonably safe passage of food ships, and finally, home agriculture was to maintain its usual standard of production of those commodities to which it had become adapted.

The anticipated war did develop, large reserves of certain commodities were said to exist, and the Navy has been very successful, but the new wartime policy realizes that in view of the possibility of a long struggle, home agriculture must now greatly increase its production. The aim expressed by the Minister of Agriculture is that English farming must ensure the maximum domestic production of food, thereby decreasing the dependence on imported materials both for humans and animals. This would release more and more shipping for other purposes and save foreign exchange so that more materials of war could be purchased. Seemingly as an afterthought, another declared policy of the wartime agricultural platform is that British agriculture must be brought back to a condition of prosperity and the land restored to full productivity. It has been promised time and again that no effort is to be spared to prevent home agriculture and the land in general from falling into the state which developed after 1918. Unquestionably there is tremendous scope for a policy which, even though one of wartime measures at present, will lead to the eventual restoration of English agriculture. It is believed that the long-run result of the plow-for-victory campaign will be an improvement in land fertility. A tremendous area of grassland is to go under the plow—the war having been responsible for the large-scale adoption of measures aimed not only toward increased food production but also toward the initiation of the grassland-improvement policy advocated so long by Sir George Stapledon. Grassland to the plow is a war-economy measure, but after many of these areas have been subjected to rotational crop-

ping associated with manuring and land drainage, they will be in a position when sown down again to support even more productive grassland. The immediate concern, however, is whether English agriculture, and particularly the land itself, is in a proper state to make the response in production demanded by the present emergency, especially as the farmers are starting a very long way behind the mark. The great ability of the English farmer to adapt himself to circumstances, an attribute fully tested and proved during the past twenty-five years, is one cause for confidence in his ability to succeed in this the greatest crisis. The broad lines of the problems facing him will be considered in brief outline.

THE INCREASE IN ARABLE PRODUCTION

It is not believed for a moment that home agriculture can by any means produce the total food requirements of man and animal in England, but a greatly increased production will certainly ease the burden on Britain's other war services. This objective prompted the £2-per-acre grant for plowed-up grassland. At the outbreak of the war, farmers were asked to embark on the formidable task of plowing up at least 2 million acres of grass in the first year. This area has already been selected and put into cultivation, although a very adverse autumn and winter seriously delayed the task. The organization of the work is the responsibility of County War Agricultural Committees, comprising men of practical and wide experience. These committees have the legal power to select land and direct its use. Prosecutions have already been made for refusal to comply with the wishes of the committees, but there seem to have been few cases of friction. Every care and consideration is taken to ensure the selection of the most suitable and convenient land. The objection has been made that if a farmer with a dairy herd has to plow up several of his grass fields he will have to reduce his herd of cows. Actually, most of the grass acres are understocked, and if one or two fields are cropped the output of the remaining grassfields must be increased by improved management. A man with 25 acres of grass heavily stocked with cows, pigs, and poultry is not expected to crop at all; whereas a farmer with 400 acres, 60 of which are under cultivation, may be asked to plow another 60. In all grassland areas, farmers are agreed that it will be in their own interest to have, where possible, a few acres of oats or beans to feed the stock, especially as rationing of imported feeds becomes acute. Then again the plow-up program will vary with the quality of the grass in the various counties. Where the grass is good and the land, therefore, in fit condition, practically every farmer may be required to make some contribution to the county quota. A different problem is encountered in the hill districts where farms are entirely in grass. Cropping may not be demanded, but there will be plenty of scope for improving the existing grassland in accordance with Sir George Stapledon's recommendations. Where grassland is poor, especially in the hill districts, the improvement of the grass itself will be the best contribution farmers in these areas can make to the national effort. The County Agricultural Committees, therefore, have a difficult task to perform, and one demanding

every care and wise forethought in the choice of land in order to avoid hardship or difficulty for the farmer and to ensure greater productivity from the selected land. Wherever possible, however, grassland is to go under the plow, and most of the areas reasonably stocked in the past will be the better for the freshening touch of a period of arable farming to cash some of the stored fertility or to bring about a change from a state of infertility. The exigencies of war have resulted in the development of a policy in England directed at securing the greatest production from English soil. It should be borne in mind, however, that although the plow-for-victory policy is at the moment one of wartime measures, it will be in effect a vast national scheme of land improvement and rural rehabilitation.

There is one point of criticism, however. Hitherto, little direction has been given to the kind of crops that should be grown on the plowed areas. The farmer has been very largely left to himself insofar as this matter is concerned. In most cases he will grow the crop from which he expects to make the best return and not necessarily the one which will be of fullest use in the national feeding program. However, the authorities are now considering a national diet for the British population and the possible adoption of Sir John Orr's scheme of a diet based on oatmeal, potatoes, vegetables, fruit, milk, and fish. If this does come to pass, the agricultural scheme will certainly fit into the whole picture, and the farmers will then be directed as to what crops to grow on their plowed areas.

In many ways this war is different from the last, but in other ways history is repeating itself. Farmers are being asked to do generally the same thing as in the latter part of the World War—to increase the output of food for the population and stock by breaking in grass areas. Emphasis is again on quantity rather than quality. One can appreciate the feelings of the man who has an all-grass farm when he is asked to plow some of his fields. He has no implements, no skilled men, and little knowledge of arable farming. The burden, therefore, will generally fall on the arable or mixed farmer, but it seems that the grass man will have to play his part somehow. In the immediate future he will benefit by providing some of his own stock feed, of which there is a growing shortage, and in the long run he will pave the way for better grass.

ECONOMIC CONSIDERATIONS

The need is great and is appreciated, but the available means to the end has provoked a fierce controversy among English farmers. There are the anxieties of the last war on the score of labor, but it seems that the position is infinitely better now than in 1918. This time agriculture is a reserved occupation from the start, with an age limit of 21 for agricultural workers liable for military service. No farm laborer is now allowed to enter any other form of employment; conscientious objectors are being conscripted for farm labor, and workers with agricultural experience are encouraged to return to the land. The Womens' Land Army, at first a nebulous body of pretty girls, has gone through a process of natural selection, leaving available thousands of really effective young women

who are performing veritable yeoman service. Their services will be even more appreciated for the summer cultivation of a greatly increased acreage of root crops, the harvesting of such crops as cereals, potatoes, and sugar beets, and for haymaking. To some extent, members of the armed forces have been released from active service to assist during the periods of rush farming operations, notably during the first wartime cereal harvest.

Insofar as equipment is concerned there is undoubtedly far more power machinery available in the present emergency, and special assistance is being given to the farmer in granting reasonable allowances of the severely rationed oil fuel.

The main problems undoubtedly seem to be those of finance, capital, and prices. Here the Government has faltered, although some effort has been made to solve these difficulties. Prices of farm produce are pegged and the market is guaranteed, but the farmers fear that with rising costs, which seem inevitable, the prices fixed before the crop is produced may not be sufficient. Already costs of fertilizers have advanced markedly, and transport charges are also high. The Government has stated its determination to reexamine the scale of guaranteed prices in the light of any new conditions, but at the same time it is pledged to keep the prices of goods to the consumer as low as possible. Prices of farm produce have been fixed at the moment with regard to known factors, leaving the matter open for any new circumstances to be taken into consideration. Recently there was an all-around increase in the prices fixed for farm produce which assisted the farmer in his battle against higher production costs. Farm wages have also reached a level hitherto unknown in English agriculture. On the other hand the result has been an increase in the cost of food to the consumer, and this of course is unfortunate for the low-wage earner and that section of the community which has always suffered from a low standard of nutrition.

There are also difficulties associated with cash and credit. The £2-per-acre subsidy for plowed grassland is some contribution toward the initial part of the new costs. The guaranteed market and prices will also assist, and in view of the better immediate and long-run prospects for English farmers, the bankers and merchants are expected to aid the farmers even more.

LIVESTOCK POLICY DURING WARTIME

Throughout this century English agriculture has been changing from crop production to livestock and their products, the latter accounting for about two-thirds of the agricultural output. This has been made possible by easy importation of concentrated feeds and the development of byproducts of certain manufactures which can be utilized in animal production. Farming still lags behind the advance of scientific guidance in grassland management, but sufficient attention has been paid to new methods to have caused at least some increase in animal husbandry.

The gross importation of animal foods is only a little over 20 percent of the

total nutrients consumed, the balance being home-grown grass, roots, corn, and fodders, but most of the imports are essential concentrated feeds which now figure so much in English livestock husbandry. Thus in a time of crisis like the present, unless a reserve of such concentrates has been accumulated, the livestock industry is bound to suffer even though rationing of foodstuffs may be adopted.

In the opinion of leading agriculturalists, there must be certain lines of adaptation as in the last war, notably an increase in home production of stock feeds and a better utilization of foods alternative to the concentrates normally used. There must also be a greater utilization of household waste and scraps and a rationing of the available concentrates with priority for those classes of stock which yield a product of essential importance in the national diet.

The plow-for-victory campaign will contribute to the supply of stock feeds, but there is also room for considerable improvement in the utilization and management of grass. An authority like Dr. Charles Crowther advocates a much greater use of silage and artificially dried grass, both of which will enable a substantial reduction in the need for imported materials. He suggests that in view of the prohibitive cost of drying grass on a private scale, the Government should make itself responsible for this service on a national scale at a number of distributive centers. The grass to be used would be that of aerodromes, playing fields, and other areas not used agriculturally. The Government's policy regarding such proposals will most certainly depend upon whether it considers the expenditure of the amount of oil fuel required to produce a ton of dried grass is warranted. On the other hand it may be more in the country's wider interests to export the coal rather than set a large quantity aside for the production of this expensive stock feed.

Dried grass and silage, together with other home-produced roughages, can be utilized readily by sheep and cattle, but the penalty of depleted feeds is already falling on the pigs and poultry which figure largely in English farming as they can use such fodders only to a limited extent and the grains and meals essential for them are lacking. Already there has occurred the inevitable decline in the production of pig and poultry meat and eggs. Since the war began the poultry population of England and Wales has fallen by over 21 million birds, owing to some extent to the shortage of feed, although it must be remembered that the poultry population always declines in winter. City dwellers who have expressed gratification at an increased bacon and ham ration may have overlooked the fact that this has been due partly to an unusual slaughter of animals made necessary in many cases by inability to secure concentrates.

The demand for quality in animal meat has given way entirely to a demand for quantity. The public does not like fat bacon but much prefer it to no bacon at all. So the pigs where possible are to be run longer and made bigger and fatter. Similarly, instead of forcing the lambs along by feeding both them and the ewes on a lot of corn and cake before slaughtering at 70 pounds, the English farmer now expects to keep the lambs longer, converting whatever home-grown food is

available into meat and finally killing at about 100 pounds. There will not be much fat lamb, but the public will after a time be thankful for prime mutton. So also with cattle—the age at which the beasts are slaughtered will be increased, the fattening prolonged, and older heavier cattle produced on roughage and home-grown fodders, without the usual finishing-off on imported cake.

Nevertheless, production of pig and poultry meat and eggs is now a matter of concern and difficulty, especially as beef, mutton, and milk are considered from the point of view of national welfare to have first demand on available supplies. British agriculturalists urge that some attempt be made to maintain a reasonable production of pigs and poultry, or at least that nucleus stocks should be preserved. It is suggested that householders should become “back-yard producers” and utilize city waste more efficiently, adding a minimum amount of concentrates. It is not presumed that even under the pressure of war economy the English suburban dweller will agree to keep a pig or two in his garden, but poultry are likely to be kept in this manner, although they cannot be preserved on scraps alone. The meat problem might be eased if the householders would keep rabbits which are better than hens where there is mainly garden refuse available. With regard to the maintenance of pig numbers, it is further advocated that, if the war is prolonged, national pig-feeding centers should be established at which the animals are housed and fed on collected household, hotel, and camp waste, combined with the minimum of concentrates. Such pig feeding centers have already been established by numerous urban authorities. It should not be thought that at present such city refuse is wasted; for many years all such material has been treated commercially as a popular organic manure.

Associated with the difficulties which livestock farmers face in the matter of securing animal feedstuffs, technical agriculturalists are devoting much of their attention to matters of exploitation of new sources of animal feed supply. Possibilities which are under examination include the utilization of household waste and slaughterhouse offals, alkali predigestion of straw, and the use of synthetic nonprotein nitrogen compounds as a substitute for part of the animal protein requirements.

Finally, although the pig and poultry farmers have to accept the fact that milk, beef, and mutton are to receive first consideration in the rationing of stock feeds, they are justified in their insistent demands that rationing of any imported feeds should be very stringent. Instead of unlimited production of the favored products such as milk and beef, they should be kept to the minimum level of the national need. If the pig and poultry industry can hold out or at least preserve a good nucleus of stock until cattle farming derives the benefit of improved use of grassland, home-grown fodders, and roots, thereby making available more supplies of concentrates for pigs and poultry, the outlook will not be so depressing.

Thus after a long period of adversity and discouragement, the English farmer now finds himself thrust into the sunlight. He is being wheedled and persuaded

to plow the land, and produce grains, roots, and stock foods. He is confronted with a difficult agricultural problem and justifiably considers himself as much a first line of defense as any member of the fighting service. Apart from the agricultural difficulties which would be expected to result from his contribution to the national effort, there are additional unforeseen hazards of a nonagricultural nature. He has to contend with incendiary bomb attacks on stored produce; bomb craters in the potato and sugar-beet fields; and machine gunning of men as they work their plow teams. He must cooperate with home defense authorities in making a strategic disposition of hay and corn ricks, implements, and other obstacles, to prevent surprise enemy landings in open spaces, and as he works he must stand by with the guns, once used for pheasant shooting but now in readiness for possible parachutist landings. These all add to the burden.

After the war, English agriculture will not be allowed to collapse as happened after the last conflict. The promise has been repeated too often to allow it ever to be forgotten. Maybe this is an empty promise of politicians who seek an immediate response or who feel that when the time comes they may not be in the position of having to implement the promise. If, as an expressed determination, it is fulfilled, then it seems that here lies the seed of difficult problems which in future will confront overseas exporters of many types of agricultural produce, who have profited by their predominance on the English market to the detriment of the status of so much English farming.

EARLY COTTON REGULATION IN THE LOWER MISSISSIPPI VALLEY

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In the last years of the eighteenth century and the first of the nineteenth, the Natchez district, then the extreme outpost of the United States in the Southwest, essayed an interesting experiment in governmental regulation of the quality of its export cotton.

The region between the Mississippi and the Chattahoochee rivers and north of the thirty-first parallel of latitude was claimed by the United States from 1783 onward but was held by Spain by right of conquest from Great Britain in 1781. By the Treaty of San Lorenzo in 1795, Spain agreed to relinquish it, but reluctantly withdrew only in the early spring of 1798. In that year the United States erected this country as Mississippi Territory, with a northern boundary east from the mouth of the Yazoo River.

Within the Territory there were two regions eminently suitable for the production of cotton: the bottom lands around the juncture of the Tombigbee and Alabama rivers; and the Natchez district, lying along the Mississippi River from the present site of Vicksburg to the Spanish boundary. The latter was covered with a blanket of loess soil, ranging in depth from 3 to 75 feet. Its richness was attested by the great hardwood trees and thickets of lush cane which covered its rugged terrain. It was on the great highway from the upcountry to the sea, and it was more thickly populated and wealthier than the Tombigbee settlement. The early history of cotton in Mississippi Territory, therefore, centered in the Natchez district.

Before concentrating on cotton, this district tried two other staple crops. The first was tobacco, of which well over half a million pounds were produced in 1787.¹ Shortly thereafter this commodity collapsed as the economic prop of Natchez society. As the Spanish king's stores were overflowing, the Government sharply reduced its purchases. Furthermore, General James Wilkinson had succeeded in making a breach in Spain's monopolistic policies, and Natchez tobacco was compelled to compete with the Kentucky product. More important than these factors, perhaps, were the shortcomings of the tobacco itself and the derelictions of the Natchez growers and shippers. The tobacco was of inferior quality, and in addition the inhabitants practiced unconscionable frauds in its packing and marketing. For example, a not uncommon malpractice was to insert a heavy stick in the middle of a carret of tobacco to increase the weight. The tobacco planters were well aware of the part that this rascality had played in their ruin.

¹ Arthur P. Whitaker, *The Mississippi Question, 1795-1803; A Study in Trade, Politics, and Diplomacy*, 281, note 26 (New York, 1934).

In the first half of the 1790s, the planters turned to the more intensive cultivation of indigo, but hazards in growth and difficulties in financing and marketing soon convinced them that this crop was not the staple they were seeking.²

The region, therefore, sank into the doldrums, whence it was rescued by the emergence of cotton as a staple crop worthy of the name. A precise date cannot be affixed to this development, but it was approximately contemporaneous with the American occupation in 1797. Cotton was being exported as early as 1791,³ but it requires no stretch of either research or imagination to ascribe the production of cotton on a large scale to the introduction of the Whitney-type gin. This is said to have occurred in 1795.⁴ Two years later, the most competent observers, both resident and visiting, agreed that cotton was the staple crop of the Territory. One planter, for example, recorded that he expected to gather 20,000 pounds of clean cotton that year.⁵

It doubtless occurred to thoughtful men that the reputation of the cotton crop must be more tenderly cherished than that of tobacco had been. Improper ginning might ruin the fiber, and upon the introduction of the Whitney machines the Spanish Government seems to have delegated to the gentry the task of inspecting the gins.⁶ In the following year, frauds were detected in a shipment of cotton. It had been poorly and imperfectly ginned, and trash and water had been added to increase the weight. Consequently, the bales were in a state of fermentation and threatened momentarily to burst into flames. Gayoso de Lemos, the governor, not only appointed a committee of substantial citizens to investigate the matter, but attended the meetings himself. He found that the conduct of three ginners was "malicious, fraudulent and prejudicial to the country, and that the matter required some efficacious remedy in order to correct such abuses and establish the credit of our cotton, the cultivation of which offers such advantages to the country." The cotton was ordered to be burned, and at least one of the ginners was thrown into the calaboose.⁷

Such irregularities were indeed a serious matter to the planters, one of whom discovered that Natchez cotton was bringing only half the market price in London, because of improper ginning. "May not some of the Rascally Cotton

² For a succinct account of this search for a staple, see Charles S. Sydnor, *A Gentleman of the Old Natchez Region*, Benjamin L. C. Wailes, 10-13 (Durham, N. C., 1938).

³ The representation from the planters "To His Excellency Don Manuel Gayoso de Lemos Governor &c &c &c," accusing their creditors of an enormous profit on the remittance of cotton to Europe, in the Claiborne Papers, vol. E, in the Mississippi Department of Archives and History, Jackson.

⁴ B. L. C. Wailes, *Report on the Agriculture and Geology of Mississippi, Embracing a Sketch of the Social and Natural History of the State*, 167 (Jackson, 1854).

⁵ William Dunbar to John Ross, Aug. 21, 1797, in the "Extracts from the Letter Book of William Dunbar . . . 18 June 1775 to 21 March 1802 . . ." in the Manuscripts Division, Library of Congress; Andrew Ellicott, *The Journal of Andrew Ellicott . . .*, 134 (Philadelphia, 1803).

⁶ Daniel Clark, Sr., to Anthony Hutchins, Clarksville, Aug. 21, 1795, in the Claiborne Papers, vol. E.

⁷ Spanish Civil Records, Chancery Clerk's Office, Natchez, Book F, 475 ff.

have been shipped to England such would disgrace the Country."⁸ By the beginning of American rule, the inhabitants of the region were thus not only accustomed to some governmental supervision of the cotton business, but thoroughly convinced of its necessity.

Winthrop Sargent, the first American governor, proposed inspection of "our Staple" shortly after his arrival. He did nothing, however, to inaugurate such inspection, and it is to be feared that one of his chief objects was the pocketing of the fees to be collected.⁹ Accordingly, one of a long list of presentments against the administration, made by a grand jury of the principal county in 1799, was that "qualified persons are not appointed to visit and examine the several public and private cotton gins throughout this Territory as the success and prosperity of this Country chiefly depend upon our particular care and attention to that valuable branch of agriculture and to prevent any frauds and neglects in preparing it for exportation."¹⁰

About five months later, Sargent and the judges, sitting as a legislature, finally enacted a law providing for inspectors to certify the state of the gins and the quality of the cotton. Exportation was forbidden without such certification, except that inferior cotton, if so marked, might be shipped in round bags. Export cotton was then being pressed into rectangular, called "square," bales. The bales were to be marked "M. T.," and stamped with the name of the ginner, whose personal reputation was therefore at stake.¹¹ Sargent proceeded to appoint a horde of inspectors in the Natchez district and two in the Tombigbee settlement.¹²

These measures were apparently ineffectual in spite of the interest of the planters in implementing them and in spite of such exhortations as that made by one of the judges in his charge to the county.¹³ In May 1800, a call went out for a public meeting of those interested to consider matters "needful to create confidence in the purchasers and exporters" of cotton.¹⁴ A committee appointed at this meeting brought in some recommendations, prefaced by the clear reminder that "the failure of Tobacco which involved so many citizens in distress, arose from misconduct and imprudence." As the committee put it, the staple must "partake of the delicacy of Caesar's wife."

The committee, composed primarily of merchants, took cognizance of an

⁸ Anthony Hutchins to Daniel Clark, June 30, 1797, in the Claiborne Papers, vol. G.

⁹ Winthrop Sargent to Timothy Pickering, Sept. 29, 1798, in Dunbar Rowland, ed., *The Mississippi Territorial Archives*, 1:56 (Nashville, 1905).

¹⁰ Clarence Edwin Carter, ed., *The Territorial Papers of the United States*, 5:64 (Washington, 1937).

¹¹ The manuscript act, dated Oct. 5, 1799, is in the Mississippi Department of Archives and History. Reproduced in the Historical Records Survey, *Sargent's Code; A Collection of the Original Laws of the Mississippi Territory Enacted 1799-1800 by Governor Winthrop Sargent and the Territorial Judges*, 117-118 (Jackson, 1939).

¹² Rowland, *Mississippi Territorial Archives*, 1:257, 293, 319.

¹³ *Green's Impartial Observer* (Natchez), May 19, 1800.

¹⁴ *Ibid.*, June 2, 1800.

aspect of the cotton business which was of great importance. In a region scantily supplied with sound currency to supplement the Spanish coins which still served as money, ginner's receipts had become the chief circulating medium of the Territory by the end of the eighteenth century.¹⁵ The committee's proposals stressed the necessity of regulating the issuance of these receipts, and gave sound currency as a principal reason for sustaining the reputation of the cotton. They urged that ginner's keep accurate books, open to the public, for entering cotton receipts and that the receipts be printed.

The committee likewise recommended the standardization of the weight system. It urged the adoption of United States weights and the use of the scales of a prominent mercantile firm in Natchez, until such time as public standards could be procured. It also proposed the erection of warehouses for storing, weighing, and marking at each landing in the Territory. It proposed that such warehouses be erected by private enterprise, the individuals to recompense themselves by small stipulated charges. Responsibility for dirty or bad-quality cotton, or inferior bagging or cordage, was to be placed upon the ginner.¹⁶

The ginner's either refused this responsibility or bore it far too lightly. The committee's work probably met with as cold a reception and was as feebly translated into action as the law of Sargent and the judges. Without any evidence that the recommendations of the committee were so interpreted contemporaneously, it might be pointed out that their emphasis was on measures that served the interests of the merchants and a horde of fee collectors—the financial and creditor group—rather than those of the planters. The decade of the 1790s had been one of war between the debtor planters and the creditor merchants, contractors, and fee-collecting officials—a long and bitter story, the details of which are not germane to the present discussion. Whatever the reasoning which permitted regulation to bog down unheeded, the rascality in marketing cotton and the general necessity for the prevention of irregularities which persisted in the minds of the leaders was not reduced one whit. The ideal of regulation survived.

Sargent's cotton act, like many of his other laws, was repealed by an elected legislature. A new and much more popular governor, W. C. C. Claiborne, revived the policy of regulation in an address to that body in December 1802.¹⁷ His rather general counsel led to a detailed law which is worthy of attention

¹⁵ The status of these receipts was regularized by "A Law to render promissory notes and cotton receipts negotiable and for other purposes" on Oct. 30, 1800. The manuscript of the act is in the Mississippi Department of Archives and History. See also the Historical Records Survey, *Sargent's Code*, 158-162.

¹⁶ The report was signed by Sutton Banks, Samuel Hancock, and John Bolls. See *Green's Impartial Observer*, June 28, 1800. New Orleans trans-shippers had to check and frequently to amend the statements of the weights of bales from Natchez. See Evan Jones to Sargent, New Orleans, Dec. 19, 1800, in the Sargent Papers, Massachusetts Historical Society, Boston.

¹⁷ Rowland, *Mississippi Territorial Archives*, 1:561.

not only because it illustrates the insistence of the representatives of the people of the Southwest on some form of governmental regulation, but also because it presents details of the preparation of cotton for export in the early stages of the history of that crop in a region where it has ruled as king for almost a century and a half.

"An Act Providing for the Inspection of Cotton" was approved on March 10, 1803.¹⁸ Under the direction of commissioners, warehouses were to be erected at Natchez, Fort Adams, and the mouths of the principal creeks on the Mississippi River, and at Fort Stoddert on the Tombigbee. As in the proposals made by the committee of citizens, the warehouses were to be built by private individuals, but the law directed the commissioners to build them with territorial funds if no individual could be persuaded. The depositories should of course contain appropriate scales, weights, and cotton presses, the latter preferably equipped with an iron screw¹⁹ and so constructed as to admit of an elevation of 5 feet between beam and sill when open and 20 inches when shut. The latter measurement seems to have been the accepted standard for the width of the square bale, as ginneries were required to deposit bales of from 20 to 22 inches in thickness. The stipulation for length was 4 feet 6 to 10 inches.

Attached to each warehouse were two inspectors, who were always to work in pairs. They were to be appointed by the governor from nominees selected by the grand juries of the several counties. Cotton could not be removed from the warehouses without the certification of these inspectors, stamped with the official seal of the "Natchez Cotton Inspection." Penalties fell on both the owner of the staple and the master of the vessel undertaking to transport uncertified cotton. Appeal from the inspectors' decisions could be made to a jury of five men informed on cotton, to be summoned by a member of the county court.

The inspectors were to examine the bales thoroughly, prying into them with levers. Four rough classes were described: the first was prime cotton with strong fiber, clear of any but unavoidable trash or impurities. Second quality was clean and good, with slightly less strength of fiber, and adulterated by a slight admixture of leaves or trash, but not enough to require its being picked over. The third quality was cotton which, although decent enough in other respects, was weak in fiber or injured in ginning sufficiently to make it unsuitable for good spinning; such cotton the owner was permitted to withdraw for home consumption. All cotton that was full of trash, poor in quality, or obviously

¹⁸ The manuscript act in Mississippi Territorial Archives, ser. D, vol. 2, in the Mississippi State Department of Archives and History, Jackson. The strength of regulation sentiment in 1803 might be attributed in small part to a flurry of direct trade between Natchez and European and American ports in ocean vessels which docked at Natchez in considerable numbers in that year. See *Times Tablet and Mississippi Gazette*, Sept. 18, 1833. With no intermediate handling of its cotton in New Orleans, perhaps Natchez could more clearly envision the direct reaction of the quality of its product in foreign markets.

¹⁹ The lever-type press was rapidly being abandoned for the screw type. The wooden screw had been replacing the lever when the fertile brain of William Dunbar conceived a successful screw press using an iron screw in 1799.

maliciously adulterated through admixture of seeds, water, etc., was to be burned by the inspectors. Only the first two classes were considered fit for export. Each bale was to bear the number of its class; the inspectors were to affix a small oak board branded with the word "Natchez," a "1" or a "2" as the quality permitted, and the weight, to each bale.

At least one of the commissioners provided for by this act was appointed, and directed to a warehouse near the mouth of Bayou Pierre.²⁰ However, in November 1803, the Legislature, after reciting the fact that "the Warehouses and Cottonpresses directed by law to be erected for the purpose of inspecting Cotton, have not yet been constructed, whereby inconveniences may arise to the trading interest from the detention of Cotton, now ready for Exportation," repealed the section of the act of March 10 which named the date on which that act should become operative. This amounted to nullification of the major act. However, the second act was an earnest of continued purpose; it made minor adjustments in the other as if to remedy small flaws in a structure intended to be retained.²¹

In December 1804, Cato West, as acting governor, called the lack of enforcement of the inspection provisions and the absence of warehouses to the attention of the Legislature.²² After this admonition, the idea of cotton inspection seems to have dropped from public records. Nineteenth-century laissez faire had overtaken people accustomed to the minute supervision of a Spanish colonial government. The planters and shippers disliked the elaborate and expensive machinery needed to enforce regulation. Perhaps the insistent demands of the voracious machines of an accelerating industrial revolution placed emphasis on quantity. The population of the Natchez district was battenning on droves of immigrants, especially after the purchase of Louisiana. The gambling fever spread over the cotton lands of the Southwest. Under these circumstances, demand for regulation faded; presumably every shipper must look to his own economic reputation.

The Natchez attempt at governmental supervision was more extensive than any of the other early efforts whose records have yet become common knowledge, and therefore illuminates the ideals of regulation. Thereafter, throughout the South, there seems to have been a few sporadic statements of the need for it, but very little action.²³

²⁰ The commission of Lewis Moore, Aug. 29, 1803, in the Mississippi Territorial Archives, ser. A, vol. 3.

²¹ "An Act supplementary to an Act entitled 'An Act providing for the Inspection of Cotton passed the 10th day of March, 1803,'" approved Nov. 11, 1803, in the Mississippi Territorial Archives, ser. D, vol. 2.

²² Address to the Legislature, Dec. 4, 1804, in the Mississippi Territorial Archives, ser. A, vol. 5.

²³ Lewis Cecil Gray, *History of Agriculture in the Southern United States to 1860*, p. 706 (Washington, 1933); Thomas Payne Govan, "An Ante-Bellum Attempt to Regulate the Price and Supply of Cotton," *North Carolina Historical Review*, 17:302-312 (October 1940).

THE LAND-GRANT COLLEGE: A DEMOCRATIC ADAPTATION

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Traditionally, higher education in the New World as in the Old was designed for the select few—the aristocracy, whether of birth, wealth, intellect, or divine election.¹ Its content, consisting of the classics (except the New Testament which was studied for form rather than appreciation), pure mathematics, and dogmatic philosophy, was guarded by restricted preparatory facilities, and it kept the corporate ranks barred against numbers. Moreover, until economic and political unrest brought social upheaval, those numbers made no concerted effort to storm the academic citadel. Education at the higher level for a citizenry whose participation in public affairs was greatly restricted and whose status was fixed was as unthought of as was training for a leisure time that belonged to the age of science. General education in the modern sense was as foreign to the objective as was a technology which waited upon the formulation of basic scientific principles and their application, under pressure of effective demand, to the affairs of life.

Like most exclusive and esoteric privileges, the popular veneration and reverence for this learning was out of all proportion to its intrinsic attainment and social significance. This deference, even though grudgingly given, continued into an age of economic opportunity with its consequent social leveling and acted as an inertial influence against the development of a new system. The clergyman, the schoolmaster, and the literate squire owed no small part of their prestige to their membership in the mystic brotherhood, *artium baccalaurei*. Tribute came to them from surprising sources: Philip Hone, whose diligence enabled him to stand among the great of the land even on college boards, felt keenly his lack of familiarity with the ancients; and Ezra Cornell, the supposed prophet of the practical, was apparently as concerned about opening the way for aspiring youth to the cultural classics as to the utilitarian sciences. Even Justin S. Morrill, while capitalizing on the reaction against the traditional curriculum of the fifties, paid tribute to its lingering appeal in the assurance that classical studies would not be neglected.

Nonetheless, the average youth was not minded to undergo great sacrifice voluntarily for the opportunity of mastering syntax, prosody, theorem, and syllogism, and he became less and less so as the number and variety of life's interests increased. So for the time the academic cloisters were for the few, if not always the most worthy, and public sentiment, so far as it considered the matter, was acquiescent. Even philosophical democrats like Thomas Jefferson believed in an aristocracy of learning by which, after the masses were called

¹ This paper was presented at the joint meeting of the Agricultural History Society with the American Historical Association in Washington, D. C., on Dec. 29, 1939.

for the rudiments of learning, only a chosen few should enter the higher realms of instruction. Mass invasion of the collegiate domain awaited both a political system that would establish the opportunity and an educational program that would make the opportunity sufficiently attractive.

Influences toward this end were operating from the beginning. The attitudes and environing conditions of the formative period tended to the extension and popularization of the educational function, higher as well as lower. The material emphasis of the New World made inevitably for secularization. Distinction of ecclesiastical status, as well as of birth, gave way steadily before the achievements of business. The planter, the landed baron, and the trader were constituting a new aristocracy of wealth that was open to the willing and shrewd. The basic economic influence was reinforced by eighteenth-century reforming and rationalizing philosophy. State control of education meant an adjustment to the dominant political influence; free government necessitated free schools. As sectarian education had been provided for the faith, secular instruction was promoted for society in general.

The new West sought free education, such as it was, from the start, and eastern labor in its utopian stage joined its feeble voice. By the 1820s and 30s the free school movement as a major reform was definitely on the way to attainment. The effort did not stop there, however; if, as alleged, knowledge was power, why not more power? The private academy, which constituted a great advance in popular appeal, provided a bridge from the old grammar school to the free academy or high school, that peculiarly American contribution to secondary education.

Secular zeal in certain of the older States and democratic enthusiasm in the new, together with the essential support of State and Federal land grants, were responsible for the State university. This institution opened the way to mass higher education, and the land-grant addition, in corporate union or separate establishment, brought a popularized content that provided, according to the rival points of view, the crown or the curse of the American system of education.

Technological education, as most fully represented in the land-grant college, was also forecasted in these same decades. Frontier needs from the beginning made educational establishments, both high and low, into professional institutions. To maintain the true faith and provide a partial justification for the designation of learned professions in the colonies required the training of native leaders. The continuing frontier process perpetuated the need. Sects with regard for a literate clergy founded their log colleges with the plainest living if not always the highest thinking. The early sectarian college, rather than having a general cultural aim, was as utilitarian in its special purpose as a business institute or a school of cosmetology.

Even in that day, the homelier needs and the corresponding vocations were not overlooked. Scientific effort was applied to existence, security, or comfort; there was no time for the luxury of the pure and abstract. Franklin's researches were all directed to pragmatic ends and his plans of education, as well as those of such sympathizers as Dr. Benjamin Rush, included them. Throughout the

agitation for free schools, earning efficiency was stressed, although perhaps not always logically. The Fellenberg manual-labor schools joined agricultural and mechanical skill to their other aims, and certain of the lyceums were even more directly vocational. The pioneer Rensselaer Institute, saved from being merely another visionary venture by the ability and foresight of its first head, Amos Eaton, became a permanent center for technical training, although its original overambitious program was greatly curtailed. All of these preliminary efforts, however, prepared the way for the American phase of the Industrial Movement in education.

In the decade and a half before the Civil War, the economic scene changed markedly, the chief manifestations being the early mechanization of farm and factory, the extension of transportation and communication, the growing mercantile and financial complexities, and the rise of a permanent labor problem. In response, there arose a demand for a corresponding shift of emphasis in education. Was it not desirable to have special training for the farmer and mechanic, as well as for the white-collared or high-stocked representatives of the professions and the military establishment? The agitation, although scattered at first, developed into a more or less concerted effort corresponding to the parallel Industrial Movement in Europe. The advocates were to be found throughout the Nation. Agricultural leaders and journals in the North, South, and West joined schemes of agricultural education with demands for State and Federal boards. Labor mutuals, becoming increasingly class conscious, gave trade education a leading place on their agenda. Women's rights crusaders sought to have their cause included, although they were usually regarded as embarrassing allies. Some agitators had the breadth of social vision to include all these causes in their scheme of popular education, as did Horace Greeley in his people's colleges and Jonathan B. Turner in his industrial university.

Before the specialization and fixity of status of the new industrialism and the new capitalism, industrial education was viewed very naively by the reformers. By the masses most concerned, it was as yet scarcely viewed at all. Harrison Howard in his New York People's College enterprise, assuming class-conscious educational zeal, expected thousands of mechanics to contribute their dollars to build and maintain the great polytechnic, but the preliminary campaign was financed mainly by railroad executives, merchants, bankers, and lawyers, and permanent endowment was sought from a millionaire landlord. Popular college consciousness belonged to the future.

Whatever the future possibilities, there was an immediate demand for scientific experts for State and Federal geological and natural history surveys, engineers for railroad construction and city sanitation, and chemists for soil and fertilizer analyses. The Rensselaer Institute, the United States Military Academy, and foreign-trained technicians could not fully meet the demand, and the old colleges, not yet placement conscious, did little to supplement these sources of supply. A few administrators with more vision, like Eliphalet Nott at Union,

Francis Wayland at Brown, and Edward Hitchcock at Amherst, made efforts, largely ineffective, to meet the changing needs and to protect the cause of education against upstart technical institutions by modernizing their curricula.

Far more determining for the new education was a group of young foreign-trained scientists. At Yale, John P. Norton, John A. Porter, and Samuel W. Johnson, following the pioneering work of Benjamin Silliman and James D. Dana, laid the foundation of the Sheffield School; Louis Agassiz rendered something of the same service for the Lawrence foundation at Harvard; Evan Pugh became the first president of the Pennsylvania Agricultural College; and Eugene W. Hilgard, as director of the Mississippi agricultural survey, received training for later college service.

By the time of the Civil War, the results of both these lines of effort were very inconclusive. Michigan and Pennsylvania had State agricultural colleges; Maryland had one that was partly public; New York had both a State agricultural college and a philanthropic people's college; and Iowa had the "farm" part of a "state agricultural college and farm." In the more technical field, there were added to Rensselaer, the Sheffield and Lawrence schools, and provision had been made for the Massachusetts Institute. Numerous other projects were in process of creation or promotion.

In full accord with precedents of grants to educational and other social enterprises, the promoters had sought Federal aid, both for individual projects and for general State endowment. Again, according to form, land grants or the receipts from land sales were the suggested source. The real contribution of the much-emphasized Illinois agitation was a plan for a definite endowment to each of the States on an equal basis. Throughout the 1850s the distinguished United States Agricultural Society was the center of the campaign for Federal-endowed State agricultural colleges as well as for a national agricultural bureau. Considering the limitations of the period in publicity and propaganda facilities, the cause had been presented with relative effectiveness and had doubtless come to the attention of potentially interested persons and organizations by the time it was presented to Congress in the later fifties. Although not of direct political concern in itself, the proposal had gained sufficient recognition to be grouped appropriately and conveniently with the other agrarian-labor measures of the free-soil program.

The appeal and availability of the Morrill Act was in its synthetic composition—its skillful combination of the essential elements of the leading proposals for industrial education, its effort to balance the interests of the East and West, its concession to the jealousy in all sections of Federal control, and its deliberate generalness and vagueness on the more controversial matters. Morrill's first bill met characteristic attack from the State-conscious South and its allies, and the second suffered no less bitter, although limited, assault from the land-conscious West whose epithets of absentee speculation, eastern money power, and Wall Street manipulation were vain, except for local appeal. The result was another verification of Lincoln's observation, made in the forties, that the

settled States, when agreed, would always work their will in the disposal of the domain. The lack of effective opposition was evidence that the act capitalized the existing sentiment for industrial education and conformed to prevailing opinion on governmental function and jurisdiction. In short, the availability of Morrill's proposal lay in its lack of a too definite plan. The outside subsidy without the standard-fixing prescriptions of a subventive grant-in-aid left the States free to determine for themselves, according to their particular interest and stage of economic and social development, what constituted "the liberal and practical education of the industrial classes in the several pursuits and professions in life." In the two decades of technological pioneering preceding the supplemental Federal acts that brought the beginnings of direction along with increased aid, the interested elements in each State sought in remarkably varied ways to provide their version of an institution that was at the same time a State college of agriculture and mechanic arts and a national school of sciences and humanities.

In the 1870s and 80s, industry and business were undergoing transition and transformation. In consequence, there was a gradually changing emphasis in education and research and, still more slowly and hesitantly, in the extension of social control and the establishment of adequate administrative agencies. The effective establishment of a public technological college, like that of other characteristic agencies of the period, notably State and Federal departments of agriculture, public service commissions, and labor bureaus, involved an adjustment of the spheres and functions of politics, administration, industry, and science. The politician, the administrator, the entrepreneur, the laborer, and the technical expert were all in the picture, but their arrangement involved a new functioning for all concerned and waited for a fundamental adjustment of public opinion with reference to the relations of government, business, and applied science. Individualistic traditions were all opposed to such interrelations and the social changes corresponding to the technical could at best come only gradually, in spite of the impatience of the reformers.

To these retarding conditions from without were added the demoralizing and confusing divisions which arose within the educational fold between the defenders of the "old discipline" and the adherents of the "new education," and the no less pronounced and often more bitter contention between the extreme wings of the reformers and innovators. The "broad gauge" technologists sought to change the emphasis without lowering the standards of collegiate and university instruction. In their national schools of science and their modernized universities they proposed, by broad as well as deep culture, to train for leadership in business and politics as well as in science and technology. The trade school with its emphasis on manual skill had no place in their philosophy and organization. In contrast, the "narrow gaugers," survivors or inheritors of the manual-labor farm school and labor-mutual traditions, stood for direct training of master farmers, expert mechanics, and model housewives. The former group, with theoretical soundness but social short-sightedness, generally prevailed in the

initiation of applied science in the universities. The latter, with sincere but narrow-minded enthusiasm and political expediency, directed the trial in the separate "agricultural colleges."

The location of these colleges, whether as divisions of established or as new institutions, involved political and regional logrolling which differed mainly in the degree of crassness and discrimination. Local bidding was usually determined by individual or corporate influence, often at the expense of educational interest without compensating material advantage. Regional rivalry for public institutions, political patronage, and sectarian scheming were all represented in this demonstration of practical politics. Any or all of these influences were not always sufficient to maintain the original location. Militant Grangers and Populists were able in a number of cases to detach the college from university connection and to found an institution more in accord with what the interested public wanted. A legislature was not likely to ignore such a mandate as that issued by the Mississippi State Grange in 1877: "We insist that the Legislature of the State shall establish an agricultural college in accordance with the intention of the act of Congress . . . and that no further delay nor frittering away of the fund will be quietly tolerated by the agriculturists of the State." The research achievements of the Sheffield School did not compensate for the lack of the trained farmers demanded by organized agriculture in Connecticut. In New Hampshire the union of the agricultural college with Dartmouth was felt to be an unequal yoking with unbelievers and was broken at the first opportunity. Even Morrill's own Vermont university had difficulty in holding his added unit against the mounting discontent.

Politics of the traditional sort prevailed in the selection and work of the administrative boards. Choice by appointment, legislative ballot, or direct popular vote did not make for competence and impartiality in educational policies. Short terms and frequent changes in organization by the legislatures added to the instability and lack of continuity. Even the conventional claim of having "sound business men" was often ironically belied by careless handling of the inadequate incomes provided by endowment and early State appropriations. Such boards obviously were ill-qualified to select and sustain presidents and to aid in building up teaching staffs. For both administrations and faculties, party politics, farmers' organization connections, kinship, and even sectarian preference dictated appointments and removals in many recorded instances. In the first years, the lack of an adequate number of trained applied scientists led to the appointment of men with influence in other than academic lines who had to be designated as "colonel" or "honorable" until the formality of voting them honorary degrees could be enacted. At the same time, some of the most demagogical devotees of the practical were apostates from the classical camp. In view of such prejudice and pressure, it is surprising that there were so many instances of competent and devoted trustees, clear-visioned administrators, inspiring instructors, and creative investigators.

The too prevalent narrow-minded board, uncertain administration, and

insecure staff often enabled subverting forces to determine policies. Occupational organizations, disgruntled journalists, offended parents, and prejudiced alumni could sooner or later undermine the most promising administration. Even students, abetted by outside plotters or inside dissenters, aired their grievances against an unpopular president or an inconsiderate professor in newspaper letters, petitions to the board, or, in extreme cases, by direct action in strikes and mob demonstrations. This was democracy tending to anarchy.

The outlook for reconciling science and practice under these conditions was not bright. Entrance requirements were adjusted to the prevailing public school system; pupils were taken directly from the grades, and for those failing to meet these minimum requirements, preparatory departments were maintained. The immaturity of the students in agriculture coincided with a similar immaturity in the subject matter. The universities maintained nominal departments of agriculture for the few students who applied, while their abler professors undertook investigations that would help to systematize subject matter and be of service to the occupation. The separate colleges went to the other extreme in emphasis upon empirical processes and practical operations. The distinguishing manual-labor system, designed to provide an inductive verification of principles taught, degenerated into the performance of unskilled labor to pay expenses which should have been met by fees. In these practical-purpose institutions, as in the universities, the agricultural at times was merged into the general science curriculum. In any case, the constituency, speaking through organizations and journals, was full of complaints and suggestions which were seldom constructive.

Mechanic arts was almost immediately identified with engineering in its main branches, although it was wholly neglected in some rural States for a decade or more. It had the advantages, however, of more definite subject matter and a steadily increasing demand for graduates. There were some uncertainties over professional divisions and demarcations and a long controversy on shop work between the advocates of training in special skills and those who would produce finished products—a dispute still unsettled when this training was largely superseded by the testing laboratory.

The "military tactics" requirement was given varied construction, depending on the sentiment of the different States and the changing emphasis on preparedness. In the years immediately following the Civil War, some sought to maintain the colleges on a strictly military basis, with barracks, daily uniform, and military discipline, but except in a few States where the military tradition was especially strong, this emphasis was soon deflated to minor departments. They were as unstandardized as the typical State militias of the period, each college following its conscience, quickened at times by an active State guard or the Grand Army of the Republic. Some institutions did not provide the training at all for a number of years, and others suspended it in periods of reorganization or financial stress. A few offered the training on an elective basis, but most of them made it a requirement, except for the physically disabled and, in rare

specified cases, the conscientious objectors. Certain presidents had ambitions to make the colleges branch West Points with corresponding annual support, but the prevailing view was against an emphasis that would interfere with the main program. Agricultural leaders were especially fearful of encroachments at their expense. The unsystematic attention given to the training, in spite of exertions and exhortations of energetic commandants, prevented the realization of the avowed aim of supplying competent officers for the State militia and reflected the unmilitary mindedness of the Nation.

In spite of the conflicting counsels, uncertainties of program, and incompleteness of organization through which these people's institutions muddled in the trial years, they made some definite social contributions. Opportunity for higher education was greater than it had ever been in the United States or any other country. This opportunity was for both sexes; the land-grant college inaugurated the most extended experiment in coeducation and it was fully justified, educationally, socially, and morally. There was a true democratic spirit in the simple living and working together which was further emphasized by commendable, if usually mistaken and premature, efforts at student self-government. The heated issue of science and religion was met sooner and more fully in these colleges than elsewhere, with a convincing demonstration that the two were reconcilable in the same institution and with a wholesome effect on popular thinking about the doctrine of evolution.

There were evidences, too, of an approach to sound educational and service programs. A growing popular reaction against the incompetence and instability of the early years was manifested, while some exceptional instructional methods, original research achievements, and understanding occupational contacts in farmers' institutes were pointing the way to the main lines of permanent achievement.

The full arrival and acceptance of the new education came with its demonstrated services in meeting the technical problems of the new agriculture and the new industry. The agricultural experiment station was the turning point both in verified systematic applications and in State and Federal cooperative relationships. Science was now shown to be of indispensable service to industry and business, and as the necessary regulatory work of the period was winning acceptance for State and Federal bureaus, so the indispensable findings of the stations, as they were made available, won support for the colleges. Engineering experimentation, except in relation to agricultural mechanization, found less ready popular acceptance. Advising new industries and assisting in the technical foundation of those involving the utilization of agricultural products were, however, welcome services.

Courses were specialized and differentiated, largely in accord with occupational demands, and as emphasis shifted from production to distribution, corresponding changes were made in research and instruction. Home economics was brought to professional status by pure-food consciousness, child-welfare measures, domestic sanitation, democratization of fashions, and household mechanization.

Teaching, extension demonstration, and commercial employment came to overshadow the original objective of homemaking. At the same time, women were entering the other lines of land-grant study, including agriculture, engineering, and veterinary science. The colleges were the main influence in opening the technical professions to women, but in no other line was their training more effectively utilized than in their contacts with rural and village homes, either as residents or extension specialists.

Expansion of transportation and communication facilities together with advances in research and instruction at the colleges made possible systematic and inclusive extension programs. Concurrently the collegiate program was adapted to noncollegiate and short courses, ranging from one day to two years, and reaching all interested specific occupational groups. Farm and Home Week and the 4-H club conferences served as general State-wide roundups of adult and youth interests.

In harmony with the growing acceptance of Federal aid, the extension service was supported and directed jointly by State and Federal agencies. The same was true of the vocational-education program in which the colleges as directing centers were at last concerning themselves, as the reformers of the middle decades had desired, in the training of artisans, craftsmen, farmers, and housewives.

The centralizing trend was shown not only in administrative control but also in cooperative relations with State, regional, and national professional and occupational organizations. The extent of these contacts as well as their effectiveness was demonstrated strikingly in the World War when the modernized land-grant colleges came into full action for the first time.

Amid the complexities of the 1920s and 30s, these responsive institutions again reflected very directly the changing social attitudes and standards. Activities, amusements, and indulgences—fraternities, proms, athletic conferences, collegiate styles, and habits—have measured the changed interests and aspirations of alumni, parents, and the public in general. Like styles of dress, student reactions to the passing scene have become increasingly standardized regardless of region or type of institution. Pep, jazz, sophisticated and grave manners have successively characterized them all. The emphasis on social issues in courses, special lectureships, and student discussion groups has been characteristically pronounced, with even, at long last, a growing appreciation of the historical approach. There has been a marked reaction against the extreme technical emphasis. As the scientific replaced the trade emphasis in the earlier stage, so the technical has been broadened and enriched by literature and the social sciences. This liberalized trend has come with the increased recognition of the claims of "education for living," especially important in an age when the problem of leisure time, either achieved or enforced, looms so inevitably. Ecclesiastical foundations in connection with the colleges, by developing their religious, social, and, in some cases educational programs, have approximated Jefferson's proposal for sectarian participation in his ideal-university plan.

As in the case of all present-day institutional programs, the public's opinion regarding its own college has been influenced and in some cases dictated by policy-forming groups. Standardizing and accrediting bodies, such as educational foundations and professional societies, both technical and general, have set standards and shaped policies in ways that could not safely be ignored. The competition of privately endowed institutions also has had increasingly to be taken into account.

Then, too, agricultural education like other aspects of democratic determination, has functioned in the midst of pressure groups so intricately interwoven with the agencies of modern intelligence as to obscure the line between propaganda and established fact. Special economic groups have thus identified their interests with the general welfare. Citizenship training as urged from certain quarters has involved very particular aims of indoctrination, although the ardent appeals of extreme radical and reactionary groups, for the colleges as for the country at large, have had a somewhat neutralizing effect.

Occasional distressing reversions have joltingly reminded us that partisan and personal politics have remained an ever-present fact and a possible menace in public-supported colleges and universities, especially in those upon which popular interest is most centered. However, the relative instability, insecurity, and irrationality of control, which sensationally flagrant departures from accepted standards might indicate, can easily be exaggerated. Public participation, while at times embarrassing, has made for stability and freedom of action in the long run; the sober second thought of the electorate generally has been sound.

In the governmental programs precipitated by the great depression, the State-supported colleges have met one of their greatest opportunities for public participation and also one of the gravest dangers from class or party entanglement. The way of wisdom and true service has seemed to be in providing expert advice in formulating and organizing policies, and in serving as clearinghouses between State and Federal authorities and the public. Meanwhile, investigations appropriate to the institutions' programs that might verify, invalidate, or limit policies or administrative systems have been made—always, it is to be hoped, impartially, in the scientific spirit, and by the most approved method. Thus through the years the land-grant college has won increasing popular confidence and support by adapting itself to popular needs and desires. By adjusting and reconciling the interests of the main groups involved, the diverse aims and ideals of the pioneers in the industrial movement have been appreciably attained in ways and under conditions wholly alien to the original concepts and designs.

The term "college," as customarily used, is an anomaly in this connection. The varied research and State-wide extension establishments and undertakings, the regional and national cooperative projects, and the full programs of junior, senior, graduate, and post-doctoral instruction make these grand educational, research, and service foundations quite transcend the ordinary meaning of their designation. Labels, as the past history and present classification of American

higher education testify, are most misleading in determining an institution's instructional caliber and social significance, and these qualities are not as obvious and readily ascertainable as is often assumed.

Any relative appraisal of the typical educational, research, and service programs of these colleges is not within the province and aim of this paper. Such a consideration would inevitably tend to run into the old imponderables: What knowledge is of most worth? What is cultural education? What is research? What is the distinction between "educational" and "service" functions? It may merely be observed that in making these different objectives exclusive, the possibility of attaining measurably to all of them in a modern technological college or university is overlooked. For the few who are enamored of an experimental classical curriculum even though secured in translation, a closely segregated and carefully insulated liberal-arts college, a selected and limited enrollment, or accelerated course and tutorial guidance, there are apparently adequate facilities to meet all their demands.

In any case, whatever the verdict of a most provisional educational theory, the historical record is incontrovertible. The land-grant colleges, in their very types, have adapted their programs and methods to the conditions and needs of the changing Nation with an effectiveness that has constituted their system the peculiar "American way" in higher education.

A SEVENTEENTH CENTURY "EVER-NORMAL GRANARY"

THE ALHÓNDIGA OF COLONIAL MEXICO CITY

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The National Archives
Washington, D. C.

For almost as long as civilization has existed, man has striven to control his more vital markets.¹ In accounts of the ancient Chinese, in the famous Biblical tale of Joseph in Egypt, and in the reports of the recent rice administration of Japan, examples can be found showing how different peoples have attempted to stabilize their food supply.² The World War also added its share of experiences with controlled markets through such agencies as the United States Grain Corporation.³ In recent years, the "ever-normal granary" has become almost a household phrase, with the Honorable Henry A. Wallace as one of its most persistent proponents. The experiences of colonial Hispanic America in general, and of Mexico in particular, have, however, been given little attention. Since the bonds between the United States and its neighbors to the southward are daily growing in importance, and since a large part of the United States derived much of its cultural heritage from what were once Spanish dominions, the history of the *alhóndiga*, the controlled market of Mexico City in the seventeenth century, has more than passing antiquarian interest.

¹ This article was presented under the title "The 'Ever-Normal Granary' of Seventeenth Century Mexico City" at the annual meeting of the Agricultural History Society in Washington, D. C., on June 4, 1940.

² The number of articles and books on grain control and storehouses is very large, and the following are merely representative. Besides the famous Biblical story of Joseph, Ancient Egypt's experience is described in William Linn Westermann, "Warehousing and Trapezite Banking in Antiquity," *Journal of Economic and Business History*, 3:30-54 (November 1930). For China, see Chen Huan-Chang, *The Economic Principles of Confucius and His School* (New York, 1911). For Athens, see Augustus Boeckh, *The Public Economy of the Athenians* (Boston, 1857). For Ancient Rome, the Middle Ages, and Colonial America, see the series of articles by H. H. Manchester under the general title, "History of the Warehouse since 2200 B.C.," in *Distribution and Warehousing for 1922-1926*. For the rice warrant granary system of Japan, see S. Kawada, *Nogyo Sokoron* [Agricultural Cooperative Warehouses] (ed. 6, Kyoto, Japan, 1926), reviewed by Hoon K. Lee in *Agricultural Economics Literature*, 4:147-148 (April 1930). The rice control acts of 1915, 1921, and 1933 give further information on Japan. See also Seiichi Tobata, *Control of the Price of Rice* (Tokyo, 1933); and the article in Japanese by Shoichi Nagai on the "Meaning of the New Rice Administration Law," in *Review of Administrative Establishments*, 9(11):39-50 (November 1933), abstracted by the same author in *Agricultural Economics Literature*, 8:204-206 (April 1934). The "ever-normal granary" has been frequently discussed by Henry A. Wallace in *Wallaces' Farmer*.

³ Chester L. Guthrie, "The United States Grain Corporation Records in The National Archives," *Agricultural History*, 12:347-354 (October 1938).

Mexico City in the seventeenth century held a position in world affairs which is too easily forgotten today. At a time when the English Colonies were only small settlements hugging the Atlantic Coast, Mexico City was a well established center of economic activity. It had been the capital of New Spain for a century, and before that it had been the seat of the powerful Aztec empire. It was, in fact, one of the more important cities of the world, with all that implies of poverty, riches, unemployment, and established industry. Mexico City's grain market, called the *alhóndiga*, was one of its outstanding features, for the large population had to be fed—and at prices reasonably stable and compatible with wages and income. Although the problem, like that of Joseph in Egypt, was more pressing in years of famine than during years of plenty, the results of the program tended toward a stabilization equally desirable in an economy of scarcity or of abundance.

During the poor-crop years of the 1580s, the Spanish régime in Mexico City realized that the grain trade would have to be controlled if the needy were to be spared from starvation. Consequently, Viceroy Martín Enriquez obtained an act from Philip II which established an *alhóndiga*, or public market, where all grain was to be sold. There the farmers could take their grain, bakers obtain their supplies, and the poor buy at reasonable prices. Only the Indians were allowed to sell their grain wherever they pleased.

Over the *alhóndiga* was placed a heavily bonded warden, the *alcaide*. He was to manage the market, keep the accounts, and watch over the prices. Furthermore, he was required to live in the quarters furnished him in the *alhóndiga*, and in accord with traditional Castilian caution, was forbidden to engage in the grain trade. The regulations which he was supposed to enforce were numerous and intricate. No one was to take arms into the *alhóndiga* on pain of having them confiscated, for Latin temperaments and uneven markets had been taken into account. Certain light charges were to be imposed on every *fanega* (1.6 bushels) of grain brought in by the dealers, who, in turn, had to swear that they were farmers and not grain brokers. This rule became very troublesome when people with loads of grain also turned out to be bakers, for there was always a suspicion that bakers might be using farming only as a convenient protective coloration to hide from the paternalistic Spanish law. They might pretend to be farmers in order to hoard grain while it was cheap and then make a little profit on the side by selling surplus supplies after the market had risen. Bakers were required to declare the size of their harvests and the quantity of grain needed in their business. Moreover, no one was allowed to store his goods in the *alhóndiga* for more than twenty days; after that the supply had to be sold for whatever price it might bring. As final protection against feared excesses, the bakers were not allowed to buy at the *alhóndiga* until the bells of the Cathedral had rung for high mass, and then purchases could not exceed one or two days' requirements. To aid the *alcaide* in the performance of his duties, there was an Indian assistant called a *medidor*, who also acted as an interpreter when the occasion arose, and the ever-present Spanish scribe, or

escribano, to make the acts of the *alcaide* official. In addition, two city magistrates were to be present to add dignity and to inspire respect for the law.⁴

Further regulations for the *alhóndiga* were added from time to time. The handling of the tribute maize was put on a more business-like basis in 1609. Two account books were to be opened, one for receipts and one for distribution. In the first, the quantity of maize brought in was to be noted, together with the date, and the entry was to be signed by both the *alcaide* and the attending magistrate selected for this duty. The purpose for which the maize was intended was to be shown and a receipt given to the Indian who made the delivery. In the other book, the amount of sales and the sums received from them were to be carefully shown and properly countersigned. The money was to be placed in a strong box. To open it, thanks again to the careful forethought of the Kings of Castile, two keys were necessary. The magistrate was to have one and the *alcaide* the other. Sales were to be made only to the needy, and even then in no larger quantity than one *fanega*. If the poor did not take all the maize offered, the hospitals and the monasteries could be served, with the hospitals getting preference.⁵

After a number of years of operation under these rules, the government of Mexico City struck upon a rather ingenious method of controlling prices. At precisely nine o'clock in the morning the *alcaide* of the *alhóndiga* started the trading by giving to the merchants, who had arrived, the one-half *fanega* grain measures. Business continued until the hour of orisons at prices below a fixed maximum. Each day the scribe of the *alhóndiga* would enter the price fluctuations of the day in a book especially kept for the purpose. The *corregidor* signed each entry. On the third day of operations, in order to find the maximum price to be observed for the next period, the *regidor* assigned to the *alhóndiga* would supervise transactions to see that sales were made freely, that no maize was withheld to force a rise in price, and that sales were made to the persons making the best offers. A prize was awarded the merchant who established the price for the next three days. On the fourth day, trading began under the new maximum, but, if the opening price was higher, it was accepted as the maximum for the next three day period. In addition to the usual laws against speculation, anyone who was found buying maize or grain for other than consumption was fined the grain plus a quarter more, and the fine was divided between the treasury, the judge, and the denouncer.⁶ Thus, wide and sudden variations in the price of maize were then avoided, and agreements injurious to the public welfare could be checked.

As an added improvement, the city council expressed itself as favoring a good *alcaide* who could attract vendors. Evidently this official was expected

⁴ *Recopilación de leyes de los reynos de las Indias*, 2:107 ver.-109 ver. (Madrid, 1680); *Actas de cabildo del ayuntamiento constitucional de México*, 14:86 (v. 13-38, Mexico, 1898-1910).

⁵ *Actas de cabildo*, 17:321-322.

⁶ *Ibid.*, 21:154-155.

to have a pleasing personality as well as a flair for efficiency.⁷ He was to stop the practice of roping off large sections of the corridor for jousting with canes or for other sports of horsemanship which had interfered with the unloading of grains and flour. Finally, he was to be unmarried, honest, and circumspect, and was not to keep women of light morals in his company on pain of losing his job.⁸

The effect of the *alhóndiga* was far reaching. By the simple expedient of establishing a known central market, a stability was given to the prices of such basic foodstuffs as maize and wheat. Viceroy Enriquez, the founder, was loud in his praise. He told his successor that the *alhóndiga* had been the only efficacious method of controlling famine during his rule and urged its continuance.⁹ This injunction became especially significant at the end of the sixteenth century when prices began to mount, and the Government was forced into the market as an active trader. From a high point of 18 reales (8 reales equalled 1 peso) a *fanega*, the price was forced down to 12 and then to 10 reales in one year.¹⁰ Sales from the public stock were made each Saturday, at which time the price dropped noticeably, while the poor almost rioted in their eagerness to make their purchases.¹¹ By 1610, however, the maize harvests had improved so much that the official price of 10 reales was too high, and there was danger of the government-owned stock spoiling. The price was lowered, and the Government gradually withdrew from the market until it was finally reported that there was no public maize in the *alhóndiga*, and the price continued to fall to as low as 7 reales a *fanega*.¹² Maize, however, hovered around 10 reales throughout the rest of the century, with a few periods of sudden rise. Two of these rises, for all practical purposes, caught the *alhóndiga* unprepared, and the price of maize soared to four and five times its ordinary level, which increase was largely responsible for the bloody riots in 1624 and 1692.¹³

To eliminate all but producers from selling grain in the *alhóndiga* proved a

⁷ *Ibid.*, 22:223.

⁸ *Ibid.*, 221-222.

⁹ *Instrucciones que los vireyes de Nueva España dejaron a sus sucesores*, 247 (Mexico, 1867).

¹⁰ *Actas de cabildo*, 14:53, 226, 286-287.

¹¹ *Ibid.*, 223, 395.

¹² *Ibid.*, 17:523; 19:82, 310; 21:59.

¹³ The sources for the price of maize during the seventeenth century are very numerous. Some of the most noteworthy are the *Sedición en la ciudad*, MS., Bancroft Library, University of California, Berkeley; B. de Urrutia, *Relación [primera, segunda]*, MS., Bancroft Library; Memorial de lo sucedido en la Ciudad de México MS., Bancroft Library; "Documentos históricos pertenecientes al reinado de Felipe IV," in *Documentos para la historia de Méjico* (ser. 2) 3:58 (Mexico, 1853-1857, 19 v. in 17); Mora, "México y sus revoluciones," in *ibid.*, 106; G. M. de Guijo, "Diario de sucesos notables, 1648-1664," in *ibid.* (ser. 1) 2:472-482; A. de Robles, "Diario de algunas cosas notables," in *ibid.*, 436; *Relación del estado en que el Marqués de Gelues halló los reynos de la Nueva España*, 1 rec.-9 rec. (Madrid, 1628); T. Gage, *A New Survey of the West-Indies*, 136-137 (London, 1648); L. González Obregón, *D. Guillén de Lampart*, 273-303 (Paris and Mexico, 1908); Mancera to Veraguas, in *Instrucciones*, 266-267; *Actas de cabildo* often mentions the subject.

very difficult task. It was found that the farmers had neither the time, patience, nor facilities to sell all of their produce personally, and that contractors were frequently used. The city council even considered the idea of appointing official, bonded contractors to handle business for producers, but it was dissuaded by the possibility that the viceroy might rule otherwise and that the farmers would find it exceedingly distasteful to be forced to take their harvest to "Pedro" or "Juan."¹⁴

Outright speculation was often brought to the city's attention, and it was even stated that such operations were given protection by the less squeamish officials.¹⁵ One common practice was for certain personages or their servants to intercept the Indians who were bringing maize to the city and compel them to sell for whatever was offered. The grain thus obtained was then taken into the city and sold at a very substantial profit.¹⁶ Men with great wealth also took advantage of a limited supply of maize by cornering a large amount immediately after harvest and holding it until the resultant scarcity sent prices up and then sold at the increased figure.¹⁷

Classed in the popular mind with the speculators were the bakers. They came in for a large amount of suspicion because of their close alliance with the grain trade. Were the rotund, jolly bakers really farmers as they professed to be? Were the large quantities of grain stored in their mills merely there for grinding? Were the sudden decreases in the weight of the loaves which sold for half a real necessary, or were the bakers trying to make their fortunes quickly? These questions came constantly before the city officials for investigation.¹⁸ On one occasion when the viceroy served the bakers chocolate and cakes and tried to get them to increase the size of their loaves, they are reported to have "promised fairly, whilst they were drinking, but were very unwilling afterwards to be as good as their words; being us'd to get half in half; or else they could never wear cloaths worth four or five hundred pieces of eight."¹⁹

Since the *alhóndiga* was a consumers' market, it was natural that the producers should be somewhat opposed to it. The farmers felt that they would be more advantageously served if they were allowed to sell their grain whenever and wherever they pleased. It was not their concern if the poor of the city went hungry. As early as 1603 the farmers presented a petition to the *Audiencia* requesting that the prohibition against selling grain outside the *alhóndiga* be revoked. The city government had to defend its position.²⁰ During the periods

¹⁴ *Actas de cabildo*, 24:63, 90-91.

¹⁵ Brambila y Arriaga, "Relación," in *Documentos para la historia de Méjico* (ser. 2) 3:217-219.

¹⁶ J. F. de Montemayor y Córdova de Cuenca, *Sumarios de cédulas, órdenes, y provisiones reales*, pt. viii, 6 ver.-6 rec.; J. de Palafox y Mendoza, "De la naturaleza del indio," in Genaro García, *Documentos inéditos*, 7:88.

¹⁷ *Relación del estado en que el Marqués de Gelues halló los reynos*, lv.

¹⁸ *Actas de cabildo*, 16:81, 493; 23:145; 35:111.

¹⁹ Giovanni F. Gemelli Careri, "A Voyage Round the World," in A. Churchill, ed., *A Collection of Voyages and Travels*, 4:511 (London, 1752).

²⁰ *Actas de cabildo*, 15:186.

of scarcity which brought on the two great riots, the farmers were particularly bitter about having their bins robbed to feed the city. In fact, during such crises, even the people in the producing area were forced to go to Mexico City to buy grain, for elsewhere the price was prohibitive.²¹

To secure a grain supply, the valley for 15 leagues around the city was assessed for the public granary. In time of famine, however, maize and wheat were sometimes brought from much greater distances. Around Mexico City there were three harvest periods of wheat: the *riego* or irrigated harvest in June; the *temporal* or rainy season harvest in October; and the *aventura*, or the "hazardous" harvest, in early spring. The last was for the crops sown on the mountain sides. Maize was planted from March to May, thus bringing the harvest through the summer.²²

Opposition to the *alhóndiga* sometimes arose from unexpected quarters. To the public scribes, it was particularly an anathema. They plied their trade in the *portales* or portico of the *cabildo* where both the city officials and the public could consult them, and the long packtrains destined for the *alhóndiga* housed in the *cabildo* continually plodded through the *portales*, jostling scribes and customers alike. Conditions within the *portales* became especially disagreeable during the rainy season when mud, unsavory odors, and sanitary problems reached their height.²³ The city council was finally called upon to remedy the situation, and an order was issued which kept the horses and mules safely out in the plaza.

Although the public scribes keenly felt the unpleasant conditions under which they labored, the officials of the *alhóndiga* complained even more often. Scales and measures were frequently either defective or missing; lack of storage space was a constant subject of complaint; and water, getting into the corridor and bins, caused even more difficulty. The adjacent buildings drained into the *alhóndiga*, to the discomfort of everyone and the dismay of farmers who had brought in grain to be sold.²⁴ At one time not only was the startling announcement made that two walls had fallen into the street, but also that the roof was so full of holes that the next rainy season would drench the contents of the *alhóndiga*. Repairs were ordered by the city council and the viceroy, and the treasurer was instructed to provide the necessary funds.²⁵ Complaints about such minor matters as faulty doors and the lack of sufficient light and air were also made at times. The reassuring note was that, although neglectful and tardy, the Government usually did get around to making the necessary repairs and adjustments.

By the end of the seventeenth century, the importance of the *alhóndiga* in the economic life of the city was well recognized. In fact, after the riot of

²¹ C. de Sigüenza y Góngora, *Alboroto y motín de México*, 52 ver.-53 rec., MS., Bancroft Library; Linares to Valero in *Instrucciones*, 305-306.

²² Gemelli Careri, "Voyage," in Churchill, *Voyages*, 4:481, *Actas de cabildo*, 14:84; 23:115-116.

²³ *Actas de cabildo*, 16:162.

²⁴ *Ibid.*, 20:234; 22:221-222; 24:32.

²⁵ *Ibid.*, 28:39, 42, 51, 127.

1692 when most of the governmental buildings were destroyed, the *alhóndiga* was among the first to be rebuilt and made to function "con toda brevedad," as the order stated. Even the aqueducts were given little precedence.²⁶ In 1698, the *alcaide* of the *alhóndiga* petitioned for relief, because, as he said, the quantity of maize handled was the largest since the conquest and the job was ruining his health.²⁷

The *alhóndiga* had justified itself, and the wisdom of the old viceroy, Martín Enriquez, had been sustained. While it can hardly vie in importance with the famous experiment of Joseph in Egypt, the size of its operations and the length of its useful existence give it a significance which should command the attention of those interested in the history of the New World. It was one of the earliest American prototypes of that ideal known as the "ever-normal granary."

²⁶ *Ibid.*, 35:4, 32.

²⁷ *Ibid.*, 38:26.

FINLAND'S AGRARIAN STRUCTURE AND OVERSEAS MIGRATION

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Migration, as the late Marcus L. Hansen lucidly pointed out, involves "Freedom to move, desire to move, and means to move."¹ The correlation of the first of these factors, namely mobility, with Finland's agrarian structure is of particular interest as 85 percent of the total overseas migration has originated in the rural areas.²

The census reports of 1910 provide a typical cross section of the agricultural population.³ The landed rural population, using the word "landed" in a liberal sense, were classified into five categories:

Category	Number of Families	Percent of Rural Population
A, Maanomistajia (proprietaires fonciers).....	129,409	26.0
B, Kruunun tai uudistalojen haltijoita (dententeurs de terres de la couronne ou de ferme de colon).....	2,691	0.5
C, Virkatalojen vuokraajia (fermiers de la terre adherente à la charge).....	970	0.2
D, Itsenäisten tilojen vuokraajia (fermiers de fermes independantes).....	3,787	0.7
E, Lampuoteja ja maatorppareita jotka ovat päätilan alaisia, kruununmetsatorppareita (fermiers et tenanciers dependents d'une ferme plus considerable, tenanciers de petites fermes de la couronne).....	64,863	13.0

These five groups accounted for a little more than 40 percent of the total rural population of Finland.⁴ The first and last, by virtue of their size, were the most important and will be considered later.

¹ Marcus L. Hansen, "The History of American Immigration as a Field for Research," in *American Historical Review*, 32:501 (April 1927).

² Although the urban element in the migration stream increased considerably after 1900, the total urban migration averaged only 15 percent of the total overseas movement. In absolute figures the cities and towns of Finland contributed only 40,606 out of a total of 334,873 emigrants during the years 1883-1933. See *Suomen Tilastollinen Vuosikirja 1934*, p. 79-80 (Helsinki, 1934); the annual volumes of the *Siirtolaisuustilasto* (Helsinki, 1905-) are indispensable for the study of Finnish overseas migration.

³ *Suomen Virallinen Tilasto. Väestötilasto. Suomen Väkiluku 31 p:nä Joulukuuta, 1910. II Nide, Länä Olevan Väestön Ryhmitys Ammatin ja Elinkeinon Mukaan*, p. 56-68 (Helsinki, 1915). On the agrarian structure of Finland, see also the important volume of H. Paavilainen, *Maataloudesta ja Toimenpiteistä sen Kohottamiseksi vv. 1908-10* (Helsinki, 1913).

⁴ *Väestötilasto 1910*, 2:60. The distribution of the landed rural populations by prov-

The landless rural population, on the other hand, fell into the following classification:

Category	Number of Families	Percent of Rural Population
F, Muonatorppareita, muonamiehiä ja renkejä jotka ovat omassa ruuassaan (tenanciers et hommes payant leur redevance en ble et valets de ferme non nourris).....	14,345	2.9
G, Vuoteja, työnohtajia ja muita ammattioppineita (maitres valets, chefs d'équipe et personnes ayant reçu une éducation professionnelle).....	2,551	0.5
H, Palkollisia isantäväen ruokakunnassa (domestiques nourris par leurs maitres).....	65,862	13.2
I, Päivätyöläisiä, loisia ja mäkitupalaisia (journaliers ayant leur propre logement et journaliers n'ayant pas leur propre logement).....	212,602	42.7

These four groups constituted almost 60 percent of the total agricultural population with categories F, H, and I being the more important.⁵

The mobile elements in each of the larger categories deserve closer definition. It was not to be expected that many persons, be they *maanomistajia* or *torppareita*, who possessed vested interests and rights in the soil would abandon their households. Categories A and E, for example, furnished only 26,357 emigrants during the years 1893-1933 or 24 percent of the total landed migration stream and only 11.2 percent of the total rural emigration.⁶ Category F, the genuine *torppari* class, while nominally listed as landless, had, nevertheless, certain vested rights in the land. The operation of this fact is shown in the

incomes and categories was:

Province	A	B	C	D	E
Uusimaa.....	6,089	63	168	389	4,639
Turu-Pori.....	13,403	129	345	273	15,877
Häme.....	7,741	38	174	290	8,115
Viipuri.....	37,102	1,432	24	471	3,249
Mikkeli.....	9,173	58	80	552	6,256
Kuopio.....	13,853	133	33	913	8,114
Vaasa.....	25,674	84	99	409	11,812
Oulu.....	16,374	724	47	490	6,801

⁵ *Ibid.* The distribution of the landless classes by provinces and categories was:

Province	F	G	H	I
Uusimaa.....	5,566	690	6,070	20,079
Turu-Pori.....	3,382	586	14,127	34,758
Häme.....	3,504	552	8,311	29,279
Viipuri.....	823	225	6,153	20,232
Mikkeli.....	602	150	5,221	22,872
Kuopio.....	151	188	9,174	34,050
Vaasa.....	257	114	7,882	32,852
Oulu.....	60	46	8,924	18,480

⁶ *Tilastollinen Vuosikirja 1934*, p. 81.

small contribution made by the *torppari* to the migration stream. Out of a total landless emigration of 111,605 during 1893-1933, the *torpparit* accounted for only 7,485 or 7 percent of the landless movement and only 3.3 percent of the total rural stream.⁷ Thus the three groups having a handicap to mobility in the form of property rights in the soil (the *maanomistajat*, the *lampuotejat*, and the *torpparit*) contributed only 14.5 percent of the total emigration from the rural areas.

The day workers, or *päivätyöläiset*, constituted a relatively mobile group, and consisted of two classes: those owning their habitations, *itsellisiä* or *mäkitupalaisia*; and those who did not, the *loisia*. While these are not segregated in the migration statistics, it is reasonable to assume that the latter formed the larger proportion of the day workers' migration stream. Out of a total of 111,605 rural and landless emigrants during 1893-1933, the *päivätyöläiset* accounted for 77,032 or 69 percent, and of the total agrarian stream of 225,710 during the same period they furnished over 34 percent. The rural proletariat was then one of the largest sources for emigrants and its members by virtue of their unencumbered status were relatively free to emigrate.

Categories A, E, F, H, and I, however, accounted for less than 49 percent of the total rural migration. From what sources, then, did the larger part of the emigrants come? The agrarian structure of Finland included a mobile element that has not yet been considered, namely, the sons and daughters of the *maanomistajat*, the *lampuotejat*, and the *torpparit*. Two-fifths of the farms had less than 8 acres each of improved soil,⁸ and it was unlikely, therefore, that they would be further divided into smaller holdings when estates were settled. The eldest son usually retained the farm intact, and the other claimants were compensated by the purchase of their rights. Within the family of each *maanomistaja*, *lampuoteja*, and *torppari* there thus developed a free and independent group of persons who, if they so desired, were able to leave the hearth of their parents. The offspring of the *maanomistajat* and the *lampuotejat* accounted for 76 percent of the landed migration and 37.9 percent of the total agrarian stream.⁹ Thus the children of these two groups furnished the greatest number of rural emigrants—85,670 out of a total of 225,710. The children of the *torpparit*, on the other hand, played an important though lesser role in migration. During 1893-1933 they numbered 27,088 or 24 percent of the total landless stream and 12 percent of the total rural stream. The offspring of the

⁷ *Ibid.*

⁸ National Bureau of Economic Research, *International Migrations*, 2:531-533 (New York, 1931). See also Martti Kovero, *L'agriculture et l'industrie dans la vie économique de la Finlande* (Helsinki, 1923); *Die Bodenreform in Finnland, Offizieller Bericht* (Helsinki, 1923); Kyösti Haataja, "Land Reform in Finland," *Bank of Finland Monthly Bulletin*, 8(12):22-26 (December 1928); Frank Fox, "Finnish Farming: Its Lessons for Great Britain," *Nineteenth Century*, 100:352-357 (September 1926); "The Agrarian Reform in Finland," *International Review of Agriculture; Part 2, Monthly Bulletin of Agricultural Economics and Sociology*, 20:319-331, 362-377 (August, September 1929).

⁹ *Tilastollinen Vuosikirja 1934*, p. 81.

maanomistajat, the *lampuotejat*, and the *torpparit* formed over 51 percent of the total number of emigrants originating from the rural regions of Finland.

The three largest classes of rural emigrants were thus the offspring of the *maanomistajat* and the *lampuotejat*; the *päivätyöläiset*; and the children of the *torpparit*. Their respective contributions to the total rural stream were 37.9, 34, and 12 percent. If the first of these is included with the landed category and the last in the landless, it will be seen that the landed groups, although constituting only 40 percent of the agrarian population, furnished 49.6 percent of the total number of emigrants, and that the landless, while outnumbering the landed, accounted for 49.4 percent of the rural migration stream.

The rise and development of mobility was given impetus by a changing rural economy. Dairying and forestry were making inroads upon agronomy. Their rapid advance is attested by a few statistics. There were only 28 cooperative dairies in Finland in 1902, but the number had grown to 328 by 1910; their total sales rose from 3,500,000 Smk. (Finmark) in 1903 to 33,000,000 Smk. in 1911.¹⁰ The exports of milk increased from 1,937,646 liters in 1900 to 9,603,098 liters in 1910; and the value of cheese exports mounted from 291,741 Smk. to 868,020 Smk. during the same period. Although there had been an exportable surplus of 29,986,000 kilos of oats in 1890, the domestic production proved utterly inadequate in later years to meet the needs of large-scale husbandry; in 1911, for example, the imports of oats exceeded the exports by 1,501,000 kilos. The growth of dairying, moreover, tended toward a one-crop agriculture. In 1875 hay had accounted for only 10.5 percent of the total land under cultivation; in 1910 it required over 46 percent. The decline in the production of cereals is also shown in the case of rye; the proportion of land devoted to it fell from 26.4 percent in 1875 to 10 percent in 1910.

The increased importance of lumber in the world markets and the subsequent interest in forestry resulted in a relaxation in the process of transforming wooded regions into arable land. While the number of logs sawed rose from 14.6 million to 40.6 million during the period 1895-1913 and the exports of sawed goods increased from 1,950,715 to 3,620,643 cubic metres, there was no perceptible decline in the proportion of forest to cleared lands. There remained in 1926 over 25 million hectares of forest in Finland, an average of 7.7 hectares for each inhabitant.¹¹

The cumulative effect of the growth of dairying and forestry was to reduce the number of employed. While it is true that these rising industries created new jobs, it is extremely doubtful whether they absorbed as many employables as they had, directly or indirectly, thrown out of employment. Hundreds of

¹⁰ Paavilainen, *Maataloudesta vv. 1908-10*, p. 104-110. See also Kovero, *L'agriculture et l'industrie*; A. Raussi, "The Cooperative Dairy Movement in Finland," *Bank of Finland Monthly Bulletin*, 8(7):22-28 (July 1928); *Yleinen Katsaus Suomen Ulkomaiseen Merenkulkuum ja Kauppaan vuosina 1871-75* (Helsinki, 1877); and *Suomen Kauppa Ulkomaalajien Kansa sekä Tullilaitoksen Ylöskanto vuonna 1917* (Helsinki, 1919).

¹¹ Martti Kovero, *The Wood Industry of Finland, passim* (Helsinki, 1926).

hectares in either hay or spruce required less in terms of human labor than similar areas in cereals or potatoes. The displacement of man units was, moreover, enhanced by the introduction of labor-saving agricultural and dairy machinery. The value of the imports of the first, for example, rose from 1,288,000 Smk. in 1900 to 3,512,000 Smk. in 1908, and of the second, from 379,000 Smk. in 1900 to 1,162,000 Smk. in 1910.¹²

It is very easy to confuse the creation and rise of mobility within the agrarian body with economic motivation, the so-called "push" for migration. In truth, the small holdings and changed rural economy did not cause emigration from Finland: they merely provided a relatively free and unfettered population from which the migrants could be drawn. The "desire to move, and means to move" are problems related to, but distinct from, the matter of mobility.

¹² Paavilainen, *Maataloudesta vv. 1908-10*, p. 131-132. It is to be noted, in addition, that the domestic manufacture of agricultural and dairy machinery increased considerably during the same period.

THE CLIMATIC THEORY OF THE PLANTATION

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In a very general way the South may be regarded as that part of the United States where the planter has been the chief history-making personality—as that part of the Nation where the planter has most powerfully impressed himself upon the form of society.¹ The planter is a representative of that class of individuals who historically have possessed the land as an incident of some form of conquest and put themselves at the head of political institutions based upon the exploitation of the land. The plantation arises as the personal “possession” of the planter, and it is from the standpoint of his interests that the course of its development is directed. It is first of all a unit of authority over people which comes to be defined and expressed in terms of territory. Hence the plantation is commonly understood as a relatively large landed estate.

Plantations have never physically occupied the entire extent of the area known as the South, but in point of territory covered, the plantation society of the South is undoubtedly the largest the world has ever known. In addition to many other factors which have shaped the history of this society, the factor of sheer size alone has been a highly important one. The plantation society of the South has been big enough to have weight and mass and stability and to permit the development of a plantation “system” whose parts cooperated to maintain a certain type of agricultural economy and social organization. All other institutions within the South, like the family, the church, the school, and the state became parts of this system and supported it. Millions of people grew up within the system and accepted it because they knew no other and rarely if ever came into contact with ideas inconsistent with it.

The South has not been alone in its plantation experience, but most of its students and writers appear to have written and spoken as if it had. Southern writers and spokesmen have been concerned chiefly with issues over which the South has been in conflict with the North and West. They have for this reason been led to contrast the institutions of the South with those of other sections of the United States to the point of acute consciousness of differences. An inevitable consequence of contrast is a heightened sensitiveness to outside criticism and an attitude of justification and of defense.

The existence of the plantation in other times and places, however, provides a basis for comparative study which should immeasurably increase our knowledge not only of the institution itself but of similar societies which have been based upon it.

¹ This paper was presented at the luncheon of the Agricultural History Society with the American Historical Association at Washington, D. C., on Dec. 28, 1939.

Historically, there have been at least three important plantation epochs. The first was the ancient Carthago-Roman system which developed around the production of oil and wine. Labor was supplied by slaves captured in war. The second developed in connection with the colonization and exploitation of the New World. It witnessed a rise of great tobacco, rice, sugar, indigo, and cotton plantations. These were based upon Negro slave labor imported from Africa. The third and contemporary plantation development has centered in the countries bordering the Indian Ocean and in many of the islands of the Pacific. The plantations in this area are manned by cheap coolie labor recruited from regions of closed economic resources in the Orient. These huge enterprises have brought plantation agriculture to a point of efficiency and importance not hitherto known.

Aside from the plantation areas of the South the institution today controls the lives and destinies of millions of people in many other parts of the world. In the West Indies the remnants of an old colonial plantation system exist alongside the new and highly efficient plantations organized by American capital. In the Yucatan peninsula and throughout Mexico plantation estates are being broken down into small farms by the policy of the Cardenas government. The old coffee plantations of the highlands and the newer banana plantations of the lowlands give several of the Central American states dual plantation societies in many respects very different from each other. The "mass agriculture" of the banana industry has in recent years transformed primeval jungles into active and thrifty plantation communities. In South America the Guianas, Venezuela, Colombia, Ecuador, and Peru each have plantation areas proximate to their coasts. Brazil witnessed the rise of the first plantation society in the New World, a society based upon the cultivation of sugar cane by means of Negro slave labor. Today, however, it is the coffee *fazenda* of southern Brazil which gives that country what is probably the second largest plantation area in the world.

There are many important plantations in West Africa, notably in Liberia, but the outstanding plantation societies of that continent range from north to south in the eastern half, in Natal, Mozambique, Zanzibar, Tanganyika, Kenya, and Anglo-Egyptian Sudan. About each of these societies there are special points of interest which would repay comparative study. Kenya, especially since the first World War, has witnessed the rapid rise of an aristocracy of European landowners and the proletarianization of the native population. In Natal, an English planter class has developed the cultivation of sugar cane on large estates by the use of East Indian indentured labor and Bantu native labor. The clove plantations of Zanzibar are nominally owned by the once wealthy and all-powerful Arab planters.

In Asia there are several very important plantation societies with commercial outlets on the Indian Ocean. Perhaps the oldest of these is found in the island of Ceylon where on several occasions the estates have had to respond to drastic changes in world market conditions by shifting to different agricultural staples.

The tea plantation society of Assam also has had a very interesting and somewhat unusual history. One of the most important plantation developments of modern times is that connected with the production of rubber in the Malay Peninsula. When it was discovered in the first decade of the present century that this long, narrow tongue of land was excellently suited to the production of rubber, the jungle was quickly converted into industrialized forests of disciplined rubber trees. The estates of European planters and companies became points where many peoples of diverse race and culture came together. No less important are the plantations in the Dutch islands of Java and Sumatra. Between the plantations of these two islands there are interesting and significant points of comparison and contrast. In the Philippines, American capital has developed sugar plantations while the Japanese have organized the sugar industry of Taiwan into large-scale producing units to meet domestic needs. Queensland, Australia, Fiji, and Hawaii are or have been the scenes of extensive sugar plantation enterprises. The plantation industry of Hawaii is especially significant for it has given the Territory one of the most heterogeneous populations in the world.

It is obvious from this incomplete and hurried review of plantation societies throughout the world that they are numerous enough to provide the materials for a comparative and scientific account of the institution and of the societies founded upon it. Naturally we are most interested in the South, but it is a frequent experience of science that insight into the problems of a given situation is gained only by going outside that immediate situation, and the widest and seemingly most irrelevant excursions are frequently the source of the most illuminating insights. It may be that the more we learn about other plantation societies directly the more we shall learn about Southern society indirectly.

The literature of plantations is extensive, but it is for the most part, historical rather than sociological. Historians and geographers have given us most of our facts, but they have not concerned themselves with the formulation of any theory to explain the facts. Historians and geographers very properly insist on first depicting things as they are and then inferring generalizations secondarily if at all rather than setting up hypotheses and plunging at once into a search for principles and for common processes of change.

The transformation of the unique events and the concrete facts concerning particular plantation societies which historians, geographers, and others have given us into the generalizations of social theory begins with the asking of such questions as the following:² What is a plantation? What are the determining

² "The sociological point of view makes its appearance in historical investigation as soon as the historian turns from the study of 'periods' to the study of institutions. The history of institutions, that is to say, the family, the church, economic institutions, political institutions, etc., leads inevitably to comparison, classification, the formation of class names or concepts, and eventually to the formulation of law. In the process, history becomes natural history, and natural history passes over into natural science. In short, history becomes sociology."—Robert E. Park and Ernest W. Burgess, *Introduction to the Science of Sociology*, 16 (Chicago, 1921).

characteristics of a situation in which the plantation is likely to arise? Under what conditions does it undergo change? Is there a characteristic cycle of change? Why does it continue longer in some areas than in others? When the plantation breaks down, what normally succeeds it?

It is obvious that answers to such questions as these, if there are answers, would not only give a better understanding of the history of the South and of other plantation societies, but might also contribute to any regional plan to guide and control the future of a plantation society.

Insofar as general answers to any of these questions have been attempted, they have come, for the most part, from students of colonization and colonies. The reason for this is apparent. The study of colonies, as distinct from the study of a colony, invites comparison and classification. The most obvious characteristic of colonies lending itself to comparison is the economic basis of community life and, as Albert Galloway Keller, has said:

agriculture is the only important primary form of the industrial organization common to colonies of all latitudes and altitudes, and so the only criterion of classification of adequate generality, not to mention importance.³

Some colonies are so conspicuously dominated by plantation agriculture and others by small-scale farming that a classification on this basis follows naturally. Keller has mentioned other students of colonization besides himself who recognized at least these two types of colonies. Keller believes, however, that the postulation of other types requires a shift to criteria of discrimination which are not common to all colonies.

The principal interest in the writings of these students of colonization is not so much in the fact that they agree in recognizing the plantation and farm colonies as two fundamental types as it is in the theory which they claim accounts for the determination of the situation in which each type is likely to arise. The explanation implicit, if not explicit, in the works of most of these men is that climate is the determining factor in the situation. This explanation is either stated or assumed in the writings of such men as A. H. L. Heeren and Wilhelm Roscher in Germany, Paul Leroy-Beaulieu in France, and H. E. Egerton and Benjamin Kidd in England.⁴ The most explicit statement of this point of view is by Keller:

colonies are, at least in their beginnings, societies of relative simplicity, as yet unendowed with that accumulation of relationships, institutions, and so on, through which older human

³ Albert Galloway Keller, *Colonization; A Study of the Founding of New Societies*, 8 (Boston, 1908). To him colonization is a sort of special topic of the science of society; its study is "of that societal movement which commonly results in the formation of new societies in new environments" and therefore "to be ranged rather under the social sciences than under history in any moderate and reasonable understanding of the term."—*Ibid.*, x-xi. This statement illustrates the transition from history to sociology when a comparative study of an institution or a society is undertaken.

⁴ A. H. L. Heeren, *A Manual of the History of the Political System of Europe and Its Colonies*, translated from the fifth German edition, 336 (London, 1846); Wilhelm Roscher

groups appear to have rendered themselves, to some extent, independent of natural conditions. If this is admitted, either through conviction or as a working hypothesis, then it should be possible to construct a useful classification of colonial societies upon the broader variations of the natural conditions to which they are or have been exposed.

Of these conditions climate is, in the present case at least, the vital and determining one. It is usually so, carrying with it, as it does, so many other factors whose variations are correlated with its own; for instance, flora and fauna, including among the latter the microscopic fauna of disease. Climate, though itself varying in accordance with several factors, and though it evades classification except by type, may still, for the purpose in hand, be broadly divided into *tropical* and *temperate*. But this distinction would be of no utility in classifying colonies, because too general, if these distinct types of climate did not condition the human struggle for existence in a manner so vital as to determine two distinct types of industrial organization, upon which in turn, as what follows is designed to show, there would regularly be developed two distinctly variant types of human society. Thus the classification based upon climate and attendant influences may be shifted over into a classification based upon the type of the industrial organization. Anticipating what is to follow, we should then distinguish the tropical and the temperate colony upon the ground of their common and basic occupation, agriculture, and might name them respectively the *plantation colony* and the *farm colony*.⁵

The temperate-zone farm colony is marked by economic and administrative independence. Since its products are likely to compete with those of the mother country, it tends toward local diversified self-sufficiency. The soil is intensively cultivated and care is given to its conservation. The unit of social organization is the family, and the population is fairly well divided between the two sexes. Hence there is little mixing with natives and no large mixed-blood population. Its democratic society is characterized by free labor.

The tropical plantation colony presents a marked contrast to the farm colony in almost every respect. Tropical products rank as luxury goods in the mother country, and the plantation colony tends to specialize in the production of one or more of them. Cultivation is extensive and exploitative. The colonists are predominantly males, and the racial unit is the individual and not the family. Consequently, relations with native women produce a mixed population. Since "Vital conditions do not permit of the accomplishment of plantation labors at the hands of an unacclimatized race," laborers must be imported from other tropical regions if the natives cannot be coerced.⁶

Keller apparently thinks of the physical and meteorological environment as giving rise to local survival forms which in turn elaborate secondary social and political forms of higher complexity. The differences between the plantation colony and the farm colony grow out of differences in climate. Adjustment to

and Robert Jannasch, *Kolonien, Kolonialpolitik, und Auswanderung*, 23-32 (Leipzig, 1885); Paul Leroy-Beaulieu, *De la colonisation chez les peuples modernes*, 2:563-593 (Paris, 1902); Hugh Edward Egerton, *The Origin & Growth of the English Colonies and of Their System of Government*, 6 (Oxford, 1903); Benjamin Kidd, *The Control of the Tropics* (New York, 1898).

⁵ Keller, *Colonization*, 3-4 (Boston, 1908). This thesis is repeated and maintained in the revised edition of his *Societal Evolution*, 344-372 (New York, 1931).

⁶ Keller, *Colonization*, 10.

varying climatic conditions along the colonial frontier results in two fundamentally different labor economies and social organizations. These statements seem to summarize the climatic theory of the plantation and the society based upon it as formulated by Keller.

In spite of the fact that most of the plantation societies in the present world community are grouped in or near the tropics, the theory is subject to some very great difficulties. In the first place, it does not account for the existence of plantation societies in areas of temperate climate. In Rhode Island, for example, after about 1650, the Narragansett planters developed "an industrial system which may fairly be compared with that of the Southern colonies."⁷ The situation in eastern Germany seems to be another exception to the theory. Although the lowlands of this area have an inhospitable climate with long, severe winters, after the twelfth century this frontier developed a system of large estates which seems to conform to the plantation pattern and which has been maintained for over six hundred years.⁸

The climatic theory also fails to explain the existence of tropical colonies where small farming characterizes the agricultural economy. Saba Island in the Dutch West Indies seems to illustrate such a situation.⁹ Costa Rica in Central America apparently is another exception. It is a tropical country with a native-born white population of small farmers. Originally whites of Spanish origin settled the land in family groups and today "of 58,976 real estate holdings Costa Ricans hold legal title to 47,000."¹⁰ However, after several hundred years of existence as a small farm society the banana plantation with Negro labor is now beginning to make inroads.

A third objection to the climatic theory is that it does not account for the very great and significant differences between plantation societies. They establish themselves in a variety of ways and vary greatly from place to place and from time to time. The differences between any two plantation societies may be as great as the contrasts between a plantation society and a small-farm society. James G. Leyburn evidently believes that the differences between what he calls the "settlement-plantation" society and the "exploitative plantation" society are very great. He recognizes these, not as sub-types of plantation society generally, but as full types of frontier societies along with the farm type and the ranching type.¹¹

⁷ Mary Stoughton Locke, *Anti-Slavery in America*, 14 (Boston, 1901). See also Edward Channing, *The Narragansett Planters*, 105-123 (Baltimore, 1886); Matlack Price, "Narragansett Manors," *New England Magazine* (n.s.), 44:54-64 (March 1911); and William Davis Miller, "Narragansett Planters," American Antiquarian Society, *Proceedings* (n.s.), 43:49-115 (April 1933).

⁸ Carl J. Fuchs, "The Epochs of German Agrarian History and Agrarian Policy," p. 233-236, in Thomas Nixon Carver, ed., *Selected Readings in Rural Economics* (Boston, 1916).

⁹ A. Grenfell Price, "White Settlement in Saba Island, Dutch West Indies," *Geographical Review*, 24:42-60 (January 1934).

¹⁰ A. Grenfell Price, *White Settlers in the Tropics*, 122-135 (New York, 1939).

¹¹ James G. Leyburn, "Frontier Society: A Study in the Growth of Culture," *Sociologist*, 9:177-178 (June 1933).

Perhaps the most serious shortcoming of the climatic theory is its failure to account for the transition from plantation to farm, or *vice versa*, in a single area where the climatic factor remains stable. The same area and climate maintains itself through kaleidoscopic changes in economic and social life. Vincent T. Harlow has described a change in Barbados from a colony of small farms operated by white owners to a colony of large plantations operated by Negro slave labor. On the other hand, according to Avery Craven, Virginia and Maryland had by 1860 "come largely to the small farm and the small farmer." By that time the Governor of Virginia was advertising her agriculture as no longer characterized by "the large plantation system" but one of "smaller horticultural and aboriginal farming."¹²

The fact that in the present world community plantation societies are grouped in or near the tropics, which at first seems to support the theory, may be accounted for on other than climatic grounds. It is obvious that, because of climatic conditions, most of the agricultural products characteristic of the tropics cannot be grown elsewhere. Some, like cane sugar, can be produced in temperate zone areas, but the costs are materially higher when production is attempted outside the areas of optimum natural conditions.¹³ Bananas, for example, can be grown under hothouse conditions in Canada, but they can be grown profitably only in the tropics. For this reason banana plantations are found in the tropics and nowhere else. They are located by the nature of the major crop. Bananas need not be grown only on a plantation basis; they may be, and frequently are, grown and marketed by peasant farmers. In the latter case the small banana farm is also necessarily restricted to areas of tropical climate.

Although the natural distribution of particular plantation staples is determined or limited by climatic factors, it does not follow that the plantation institution itself is so determined. Plantations are largely concentrated in the tropics, not because of climate, but because, in the present world community, tropical regions constitute a highly important and accessible trade and agricultural frontier, and the plantation is always an institution of the frontier. The tropics constitute a frontier where there are exploitable agricultural resources attractive to capital and which are nearer to consuming centers in terms of transportation costs than are the vast areas of sparsely peopled but potential agricultural lands in the temperate zones. Plantations have developed along nontropical frontiers in the past and conceivably may in the future.

For these several reasons, therefore, the limitations of the climatic theory seem to be more important than its applications. It does not provide a satisfactory basis for research upon the nature and problems of plantation society. Dissatisfaction arises when an effort is made to use it. Of possible significance

¹² Vincent T. Harlow, *A History of Barbados, 1625-1685* (New York, 1926); Avery Craven, *Soil Exhaustion as a Factor in the Agricultural History of Virginia and Maryland, 1606-1860*, p. 160-161 (Urbana, Ill., 1925).

¹³ Nels August Bengtson and Willem Van Royen, *Fundamentals of Economic Geography*, 399 (New York, 1935).

in this connection is the fact that after elaborating the climatic theory of plantation and farm colonies in the first chapter of his *Colonization*, Keller made very little actual use of it in the following chapters which deal with particular colonies.

The question raised by a climatic theory of the plantation is really part of the larger and more fundamental question of acclimatization.¹⁴ The acclimatization of human beings usually is discussed in connection with white settlement in equatorial regions.¹⁵ Many writers believe that the acclimatization of white settlers in the tropics is constitutionally impossible. Thus Benjamin Kidd is well known for his opinion that "in the tropics the white man lives and works only as a diver lives and works under water. . . . Neither physically, morally, nor politically, can he be acclimatized in the tropics."¹⁶ Ellsworth Huntington has argued that in the tropics the white man loses his will power and gives himself up to idleness, displays of temper, drunkenness, and sexual overindulgence.¹⁷ Madison Grant has conceded that the "Nordic race can exist outside of its native environment as landowning aristocrats who are not required to do manual labor in the fields under a blazing sun" but not if its members are compelled to support themselves by their own labor.¹⁸ The logical consequence of such views is expressed in the conclusion of William Z. Ripley that "a colonial policy in the tropics means a permanent servile native population, which is manifestly inconsistent with political independence, or with any approach to republican institutions."¹⁹

It has long been assumed both in the North and in the South, that cultural differences between these two sections of the United States derive from climatic differences.²⁰ Many if not most students of Southern society have made this assumption. Ulrich B. Phillips, for example, began his important work on *Life and Labor in the Old South* with the statement: "Let us begin by discussing the weather, for that has been the chief agency in making the South distinctive,"

¹⁴ Alfred Russell Wallace defined acclimatization as "the process of adaptation by which animals and plants are gradually rendered capable of surviving and flourishing in countries remote from their original habitats, or under meteorological conditions different from those which they have usually to endure, and at first injurious to them."—*Encyclopedia Britannica*, ed. 11, 1:114.

¹⁵ Englishmen of the seventeenth and eighteenth centuries discussed the difficulties of acclimatization in Ireland. Thomas Pope Blount, *Essays on Several Subjects*, 65 (London, 1691); and Giles Jacob, *An Historical Account of the Lives and Writings of Our Most Considerable English Poets . . .*, 87 (London, 1720).

¹⁶ Kidd, *Control of the Tropics*, 54.

¹⁷ Ellsworth Huntington, *Civilization and Climate*, 41 (New Haven, 1915).

¹⁸ Madison Grant, *The Passing of the Great Race*, 41 (New York, 1921). He believed that whites in the South had deteriorated since the abolition of slavery for they had to plow their own fields and work in factories. See p. 42.

¹⁹ William Z. Ripley, "Acclimatization," *Popular Science Monthly*, 48:789-790 (April 1896).

²⁰ For an early Southern expression of this belief, see the statement by John Tyler in the Virginia constitutional convention. Jonathan Elliot, *Debates*, 3:639 (ed. 2, Washington, 1836). For a similar Northern viewpoint, see the speech of Alexander Hamilton in the New York convention. *Ibid.*, 2: 235-237.

but he recognized the fact that "The South is nowhere tropical except at the tip of Florida."²¹ More recently Clarence Cason in his study of Southern society insisted that the summer heat was and is the basic factor in all Southern culture. Conducive to inactivity under the Mississippi dictum that "only mules and black men can face the sun in July," the heat, he thought, created in the South a serenity for which all men strive.²²

Involved in all these opinions concerning the impossibility of white acclimatization in the tropics as well as those concerning the connection between Southern civilization and the climate of the South has been the assumption that only the Negro and other nonwhite peoples were capable of doing the work necessary for agricultural production under the conditions imposed by a tropical or semitropical climate. This assumption was in large measure the economic justification for Negro slavery in the South before the Civil War. Dr. Thomas Cooper, president of South Carolina College, probably stated the opinion of most white Southerners of the period when he said: "Nothing will justify slave labour in point of economy, but the nature of the soil and climate which incapacitates a white man from labouring in the summer time."²³

Public statements alleging a superior tolerance on the part of the Negro to the climate of the South are heard less frequently since the Civil War, but the opinion, nevertheless, is still widely held. However, the gradual realization that there are now more white than Negro tenants and sharecroppers on Southern plantations seems to have been accompanied by a tendency to shift the explanation from the climate to the hookworm in order to account for the inefficiency and low status of agricultural labor. However, many upper-class Southerners seem to assume that hookworm is only a polite name for laziness which in turn goes back to an innate mental and moral inferiority.

Popular opinion regarding the acclimatization of man has been, for the most part, based upon two assumptions: first, that the different races of mankind are distinct species, each sprung from a separate origin in its own native habitat, and second, that climate is the principal factor in limiting or regulating the distribution of species. It is significant that the various climatic theories of human society, from Aristotle to Huntington, are closely associated with the various racial theories of society. "These two theories," according to Robert E. Park, "have this in common, namely, that they both conceive civilization and society to be the result of evolutionary processes—processes by which man has acquired new inheritable traits—rather than processes by which new relations have been established between men."²⁴ The climatic theories support the view that social distinctions are biological and constitutional in origin rather than the result of history and circumstances.

²¹ Ulrich Bonnell Phillips, *Life and Labor in the Old South*, 3 (Boston, 1929).

²² Clarence Cason, *90° in the Shade* (Chapel Hill, N. C., 1935).

²³ Thomas Cooper, *Lectures on the Elements of Political Economy*, 95 (Columbia, S. C., 1826).

²⁴ Robert E. Park, "Human Migration and the Marginal Man," 64, in Ernest W. Burgess, ed., *Personality and the Social Group* (Chicago, 1929).

Tested scientific knowledge concerning acclimatization is limited and the data are very inadequate. With respect to the acclimatization of human beings, cultural factors have never been taken fully into account. Complicating factors which have to be eliminated before the single factor of climate can be isolated and its effect upon human settlement in new areas determined, include such matters as the persistence of personal habits, diet, immunity or susceptibility to disease, and race mixture. Also climate itself has to be broken down into its separate elements of temperature, humidity, monotony or variety, the chemical rays of the sun, and various other factors. The writer is not competent to discuss these complicating factors, but one consideration relative to the climatic theory of the plantation may be pointed out. The problem of acclimatization is something more than the physiological problem of the conditions that control the birth, health, and growth of individuals. It is more than a matter of the optimal and limiting temperatures, humidities, etc., for this bare physiological process. It is rather a problem of the capacity of the individual, the group, or the race to maintain itself in the struggle for numerical supremacy against others. It is the problem of the importance of a single factor, climate, as it affects an individual or a group in relation to other individuals or groups. The importance of this factor of climate is directly proportional to its selective action. Acclimatization, therefore, is fundamentally a problem of competition—of biological competition.

Acclimatization involves not merely living away from a homeland; it also involves competing successfully with the natives or with other invaders of the new area. It is a process of adjustment to a different climatic situation, but it is measured in terms of success or failure in the competition with others in the same territory, and highly important in determining the outcome is the matter of just who the others are. A European group, for example, might successfully settle a new area when its competitors are, say, Indians, but not when its competitors are Negroes or Javanese. Acclimatization is a relative matter.

It is relative because the social forces operative in a given situation at a given place and time are relative, and social forces determine to a large extent how biological forces act. The acclimatization of man is influenced by a variety of cultural factors which are nonexistent in animals below man; it is conditioned by many factors which are not included in the struggle for existence among the animals and plants. The kind of human beings which tends to prevail in an area may, for instance, be determined in large part by the general conception of their status. It is reasonable to suppose that an important factor in the failure of the white man to become acclimatized to a tropical or semitropical climate is his unwillingness to compete with the natives or with the darker races on terms necessary to success. As Earl Hanson has said: "In New York and London and on our Western plains a man is allowed to be himself and to do and live about as he pleases. In the tropics he must above all be a white man and maintain the superiority of the white race, largely by a careful refusal to do any

work."²⁵ One of the factors which help to determine how biological forces work is a code which expressly forbids the white man in the tropics to do agricultural labor.

Another historical and social factor which influences the operation of biological forces is the practice of slavery. American slavery was to a very high degree a noncompetitive status which gave the Negro a place on the land without the necessity of competing for it. Slavery likewise is a social arrangement which operates somewhat like domestication in the relations between men and animals. Slaves and domesticated animals are naturally protected against a competition which otherwise might eliminate them. Slavery does not allow full biological competition between the races inhabiting an area, although all are exposed to the same climatic environment.

There seems, therefore, to be nothing in the facts of acclimatization, so far as we know them, to support the climatic theory of the plantation. Acclimatization, and biological competition generally, is fundamentally important in altering populations and institutions in any part of the world, but the alteration may take opposite directions in two tropical colonies or in two temperate-zone colonies. Because of its tendency over a period of time to produce a homogeneous population the process of biological competition would tend normally to establish the small family-sized farm. The plantation, on the other hand, represents an intruding force from without which is political in character. It arises as a regulator of population movements and racial contacts in the interest of a planter in connection with the exploitation of agricultural resources for market.

The contrast between plantation and farm is an aspect of the contrast between estate agriculture and peasant agriculture throughout the world generally. In many countries the latter two represent distinct and competing systems of agriculture within the same climatic area, with now one, now the other, dominant. In the South the plantation and the small farm with its self-directing labor have, since the days of original settlement, existed side by side.²⁶ According to W. M. Daniels, the competition between them

epitomizes the greater part of the *ante-bellum* industrial history of the South. The struggle moreover was an oft-renewed fight, and not a single pitched battle. In the same territory, as, for example, in seaboard Virginia, the early supremacy of the plantation yielded later, when the soil's pristine fertility had been exhausted, to the farm. And in general, while the superior efficiency of the plantation for the raising of staples vanquished the farm system in the short run, Providence for once fought against the "big battalions" and was bent on according the final victory to the smaller contestant.²⁷

²⁵ Earl Hanson, "Are the Tropics Unhealthy?" in *Harper's Magazine*, 167:563 (October 1933).

²⁶ William E. Dodd, "The Plantation and Farm Systems in Southern Agriculture," in *The South in the Building of the Nation*, 5:74 (Richmond, Va., 1909).

²⁷ Winthrop More Daniels, "The Slave Plantation in Retrospect," in *Atlantic Monthly*, 107:364 (March 1911).

The plantation is not to be accounted for by climate. It is a political institution, and has to be accounted for as the state and other political institutions based upon the authority principle are accounted for, and these institutions have never been restricted to any one climatic situation. On the contrary, they have ranged from Egypt to Iceland.

A conclusion suggested by these considerations is that the climatic theory of the plantation in its popular signification is an element in the resistance to social change. It is part of an ideology which rationalizes and naturalizes an existing social and economic order, and this everywhere seems to be an order in which there is a race problem. Popular interest in acclimatization and in the question of climatic determinism does not seem to arise except in interracial situations, and it arises in these situations as the political or conflict expression of an underlying economic and biological competition between the races involved.

A theory which makes the plantation depend upon something outside the processes of human interaction, that is, a theory which makes the plantation depend upon a fixed and static something like climate, is a theory which operates to justify an existing social order and the vested interests connected with that order. Under such a conception the problems of a plantation society can be looked upon as concerning only God who alone can control the climate, and the climatic theory turns out to be really a sort of divine-right theory of the plantation. Actually, however, the theory, like other sentiments, beliefs, and attitudes connected with the plantation system, must be understood as a product of forces working within the system itself, as an important part of that system but not as an explanation of it.

NEWS NOTES AND COMMENTS

DECEMBER MEETINGS OF THE AGRICULTURAL HISTORY SOCIETY

The Agricultural History Society met concurrently with the American Historical Association and other historical societies at New York City on December 28-30, 1940. The joint literary session on the morning of the 30th was devoted to "The City's Stake in Agriculture." The following papers on this general theme were presented: "The Farm Woman as a Factor in the Democratic State," by Dr. Louise Stanley, and "The Migration from the Country to the City," by Dr. Conrad Taeuber. Both speakers are with the United States Department of Agriculture in Washington, D. C. Professor Arthur M. Schlesinger of Harvard University acted as chairman and discussion leader. Professor Wendell H. Stephenson, President of the Society, presided at the luncheon conference which the Society sponsored on Monday, December 30, and Dr. Milburn L. Wilson of the United States Department of Agriculture spoke on "The Role of Agriculture in the Modern Democratic State." The Agricultural History Society also held a joint session with the American Farm Economic Association at New Orleans, on December 28, 1940. Dr. Arthur G. Peterson of the Bureau of Agricultural Economics was chairman and the following papers were presented: "Thomas Affleck and Ante-bellum Agriculture," by Mr. Fred C. Cole of Louisiana State University, and "The Expanding Scope of Agricultural Economics," by Mr. Horace G. Porter of the United States Department of Agriculture.

ECONOMIC HISTORY ASSOCIATION

A new organization, the Economic History Association, was formally established in December 1940, and the following officers were chosen: President, Dr. Edwin F. Gay; Vice Presidents, Professors Earl J. Hamilton and Herbert Heaton; Secretary-Treasurer, Professor Shepard B. Clough;

Executive Council, Dr. Solon J. Buck, Professors Harold A. Innis, Edward C. Kirkland, and Wesley C. Mitchell, Mr. Everett E. Edwards (representing the Agricultural History Society), Dr. Ralph M. Hower (representing the Business Historical Society), and Mr. Herbert A. Kellar (representing the Industrial History Society).

The Economic History Association will endeavor to encourage research and teaching in the history of economic activity and economic thought. It will seek to cooperate with the Societies devoted to the study of agricultural, industrial, and business history, and serve as a means for bringing together economists, statisticians, historians, geographers, and others who find the story of economic change throws light on their field of interest or is enriched by their contributions.

Its chief activities will be the arrangement of an annual meeting, probably in September, joint meetings with other economic and historical associations, and the publication of a *Journal of Economic History*. Plans for the journal are well advanced, and the first issue is scheduled to appear in May 1941. The editorial board consists of the following: Professor E. A. J. Johnson of New York University, editor; Professor Shepard B. Clough, assistant editor; and Professors A. P. Usher, Curtis P. Nettels, Earl J. Hamilton, Edward C. Kirkland, Melvin M. Knight, F. C. Lane, W. L. Westermann, and Mr. Everett E. Edwards.

Persons interested in any phases of economic history are eligible for membership, the dues being \$3.00 per year. The address of the Secretary-Treasurer is: Professor Shepard B. Clough, Fayerweather Hall, Columbia University, New York City.

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BOYS' AND GIRLS' AGRICULTURAL CLUBS

INTRODUCTION

Today there is a growing recognition of the important part that the 4-H club movement has played in the revitalization of rural America and its adjustment to twentieth-century conditions. There is, however, very little information in print on the history of the movement and even less concerning the experiments with boys' and girls' agricultural clubs which preceded the passage of the Smith-Lever Extension Act in 1914. These early clubs constitute an important part of the background of the movement. The following papers, prepared by pioneers in this work, are, therefore, notable as well as interesting contributions. These papers were presented at the meeting of the Agricultural History Society in Washington, D. C., on March 25, 1938—*Editor*.

BOYS' AND GIRLS' AGRICULTURAL CLUBS

A. B. GRAHAM

Extension Service

United States Department of Agriculture

For many years prior to 1900, industrial education had been claiming the attention of school men. In some cities, school gardens had been a feature of work of this nature. In one State, New York, nature-study clubs had been organized for children living in the open country. The school garden did not appeal to me because the growing season coincided with the time when the schools were not in session, and consequently, many of the gardens became weed patches. The effect was entirely contrary to what was desired.

From 1896 to 1900, I was teaching in a township high school at Terre Haute, a little village in Mad River Township, Champaign County, Ohio. At that time my thoughts turned toward a more practical application of some of the high-school studies, especially physical geography, physiology, and physics, and their use in the study of soils, soil formation, foods, clothing, ventilation, and the mechanics of farm implements. Not much was said to the board of education about this work; it was simply done by tolerance, but the idea began to spread among school men.

In 1900 my field of efforts as a school superintendent was changed to Springfield Township, Clark County, Ohio, and while it was still in my mind to use the environment of the children to an educative purpose, it could not be done in the elementary schools for a year or two until sights had been set and conditions ripened. By early January 1902, the young people from ten to fifteen years of age in the elementary schools signified a willingness to undertake the growing of corn, the testing of soils, the planting of small gardens at home, and the growing of flowers and small shrubbery. On January 15 of that year, they organized

an agricultural club of about thirty members and elected a president and secretary. This number grew to eighty-five before the schools closed.

The club meetings were held in the county building, no part of the work being done in the schools as a school exercise. However, there were two or three small texts on agriculture in each district school library. The litmus paper for testing soils was purchased from a local drug store. The record sheets were secured from Professor M. F. Miller, then head of the department of agronomy at Ohio State University. Bulbs, small flowering shrubs, and two-year-old roses were secured at a penny apiece from a local floral establishment. The home variety of corn was used. Garden seeds were secured from the Congressman of that district. As superintendent of schools I spent much time during the summer visiting the plots and supervising the work of the young people at their homes. Photographs were made of them in the field and beside their growing corn. In January 1903, an exhibit was held in the courthouse, and short talks were made by the young people at a farmers' institute that had been resurrected.

In June of 1903 a trip was made to the College of Agriculture to become acquainted with what the State was doing in higher agricultural education and to inspire the boys and girls and their parents to take additional work in scientific agriculture. We discussed the benefits to be derived from education through the three H's,—the Head, the Heart, and the Hand. The Head stood for wealth of information, the Heart for better feeling for their fellow man, and the Hand for manual skill and dexterity, but it was no part of our thought to give a name to the club other than an agricultural club. The three H's meant little to the general public.

A few months prior to the trip to Ohio State University in 1903, I wrote to Dean Thomas F. Hunt of the College of Agriculture seeking his help. The request was turned over to L. H. Goddard, secretary of the Agricultural Student Union, an organization formed to distribute to farmers tested varieties of seeds, potatoes, strawberries, etc., grown at the Experiment Station. It was through this organization that well-known and established varieties of corn were furnished to the club for 1903. The plan pursued in that year and succeeding years was the same as has already been told. Our forms and also the bound records of 1904 were exhibited at the Jamestown Exposition in 1907.

One outstanding purpose of the club was to dignify farming through the study of the elementary science of agriculture. Another was to help prepare the young minds to receive new scientific truths in agriculture. By July 1, 1905, when I went to the College of Agriculture at Columbus, Ohio, the following extension program was formulated:

To elevate the standard of living in rural communities.

To emphasize the importance of hard work and habits of industry which are essential in building a strong character.

To acquaint boys and girls with their environment and to interest them in making their own investigations.

To give to the boys who will become interested in farm work an elementary knowledge of agriculture and farm practices, and to give girls the simplest facts of domestic economy.

To cultivate a taste for the beautiful in nature.

To inspire young men and women to further their education in the science of agriculture or domestic science.

To educate the adult in the elementary science of agriculture and in the most up-to-date farm practices.

Prior to this time, the seed corn had been distributed to boys in a number of States and exhibits held after harvest time, but these efforts were not organized clubs. No meetings were held and no instructions given. There was nothing of an *organized* nature. They were not looked upon as agricultural clubs.

On February 22, 1902, O. J. Kern, the school superintendent of Winnebago County, Illinois, formed a boys' corn club of thirty-two members at Rockford. This club also raised sugar beets. In 1904, Cap E. Miller, the superintendent for Keokuk County, Iowa, formed a boys' and girls' agricultural club. In 1905, O. H. Benson, the superintendent of Wright County, Iowa, formed a boys' and girls' agricultural club, and as stated in the history of extension work in Iowa, he called it the 3-H Club. Again the 3-H idea and a three-leaf clover was used as the emblem. The fourth H was an afterthought, added in 1910, and usually attributed to O. B. Martin of South Carolina, who later was Boys' and Girls' Club Agent for the Southern States in the Washington Office.

In 1905, E. C. Bishop, assistant superintendent of schools in Nebraska, organized some agricultural clubs that were very similar to a small club he had formed prior to that time in York County, Nebraska. In Hamilton County, Indiana, John Haines, the county superintendent of schools formed some boys' corn clubs in 1905. "Corn Club" William Smith of Mississippi formed a boys' corn club in 1906 which was the first of such clubs in the South. Phil Campbell of Georgia was instrumental in laying the plan for the first girls' work, and as a result, girls' tomato clubs were started in South Carolina by Marie Cromer in 1910.

The club movement spread very rapidly to other States because the farm papers and sometimes the weekly papers accepted the idea and gave it much publicity. Meetings were held at definite points, instructions were given, records were made, exhibits were prepared, and trips, some as awards and some as information expeditions, were arranged for all who cared to participate. In my early work I probably did not give quite as much consideration to the monetary value of the projects as I did to their educational value. In the first club organized and during the year preceding my going to the Ohio State University in 1905, no reference was ever made to contests or any material awards for the excellence of any member's work. The contest idea seemed to be intimately associated with the financial results which, to my thinking, injected some temptations to unscrupulousness. The general thought has been to bring

about a change in the attitude of young people toward life in the open country, and after more than thirty-five years of interest and observation in this work I believe that end is being very rapidly attained.

ACTION PROGRAMS IN EDUCATION

J. PHIL CAMPBELL

*Soil Conservation Service
United States Department of Agriculture*

After I lost a job as assistant to the superintendent of a Georgia cotton mill in 1898, I managed to have myself elected principal of a country school. My uncle, the mill owner, said I had been fired for spending too much of my time on a garden program for the mill operatives, instead of looking after the mill's interests. He told me to go back to the farm where I belonged.

I hadn't been a school teacher very long before another young teacher and myself were asked to retire from the county rural teachers' institute as heretics. We were suggesting that the school not only serve to educate in the three R's but also serve the economic and social life of the community.

Ten years later, in 1908, as regional field agent of farmers' cooperative demonstration work, I received two rather pleasing requests from the area where the two instances I have just mentioned had occurred. One request was from the president of a company operating several cotton mills. It was to the effect that we cooperate with his company in the employment of a garden specialist who could develop and supervise a garden program for the mill operatives. The other was from a historian, whose histories had been selected by the State board of education for use in the school system. He was also a principal of a rural consolidated school. He requested that we cooperate with him in the employment of a farm demonstration agent to serve the school community.

Needless to say, we accepted both offers of cooperation. What had happened in educational thought during the time between the first two incidents and the two requests for cooperation ten years later? Mr. Graham has just told you.

During that interval, I found myself at different times superintendent of a school farm and the transportation service of a rural consolidated school; supervisor of the State normal school garden program; and director of the educational department of a state farmers' organization, which developed many farmer-owned marketing facilities.

Other movements that I had the opportunity of watching develop at that time included those pertaining to boys' and girls' club work, school fairs, agricultural teaching in rural schools, the development of agricultural high schools, and a phase of the extension work of the University. All of these movements occurred in my State prior to the appointment of the first county agent in Texas on November 12, 1906, but all of this enterprise of any practical value was subsequently taken over, improved, and developed by the county agent and the vocational teacher.

I sat for three years at the feet of Dr. Seaman A. Knapp, who, as you know originated farmers' cooperative demonstration work and the county agent system. He was not unmindful of efforts being made by other organizations and institutions to find a practical method of advancing agricultural education both within and outside of the school room. While I was with him in the Washington office in 1908, 1909, and 1910, he had many discussions with his staff regarding plans and methods for club work and work with farm women. He did not ignore the farmers' knowledge and experience in developing cooperative demonstration work. Although he seemed to stay as far away from the agricultural colleges as possible in the first years of the county agent work, he did find common ground with them in adopting the boys' club work, and later the work with girls and farm women.

It was evident that Dr. Knapp believed the demonstration method was so far removed from college training and experiment-station methods that it would necessarily have to be established independently if his ideas were to prevail. He always started a program with only one or two simple demonstrations. Other projects were gradually added, as the work developed. Several times, after I came to Washington, he consigned to the waste basket plans I had worked out. He said they were too complex.

I have here a letter that I wrote to Dr. Knapp on May 6, 1908, and I have often wondered how it ever passed into the record of the General Education Board, which was then contributing \$100,000 annually to the county agent work.

I had organized the work in South Carolina. Dr. Knapp had told me to establish 3-acre rotation demonstrations,—corn, cotton, small grain, and hay. This report of the first six months work lists the following demonstrations: soil improvement through terracing and winter legumes, improved farm machinery, pastures, cattle feeding, three demonstrations including whole farms, seed improvements, and the introduction of a new crop in one county—peanuts for hogs. Within less than a month after making this report I was transferred to the Washington office. I didn't understand why until Dr. Knapp began to tear up the elaborate plans which I submitted. Then it dawned on me that he wanted me where I would be under control. I will give you one illustration.

Several times I urged Dr. Knapp to start work with farm women. Finally he said, "Go write up a plan," and I did so. I secured the assistance of a domestic science teacher. We illustrated with photographs of her work with girls in the laboratory. As soon as it was finished I went high stepping to Room 402 of the West Wing of the Administration Building. Dr. Knapp read the plan through carefully—he seemed to meditate for some time—I thought he would never stop staring out of his window at the Potomac River. Then he straightened up in his chair, handed back the plan, and said, "Go down to South Carolina and find out what Marie Cromer is doing with her tomato club." I didn't go, but O. B. Martin did; instead I went to Georgia.

Later when I was director of extension in Georgia, I got into trouble time and again with the authorities in charge of the Federal extension office. Our agents

didn't stop with the demonstrations enumerated in the 1908 report. They began to serve farmers in the marketing of their produce, in processing, in treating plants and animals for diseases and insects, in purchasing and home mixing of fertilizers. We built and operated cooperative creameries, cheese factories, potato-curing houses, meat-curing houses, and other processing and marketing facilities until managers were trained to take them over.

In our national and regional extension conferences we had arguments over suitable definitions of education in extension and personal service. We also argued about when the demonstrational process in education ends and service and action programs begin. I recite this because the extension programs that were considered outside the scope of the Smith-Lever Act in the beginning now pale into insignificance when compared with the present-day action or operating programs.

The mention of the Smith-Lever Act reminds me to say a few words about Hoke Smith, whom I first knew as an Atlanta Lawyer in 1903, and about Frank Lever, who came out of Dutch Fork, South Carolina, to become a member of Congress the same year that Hoke Smith was elected Governor of Georgia. Lever supported the county agent work from the beginning and became a lifetime disciple of Dr. Knapp.

As an Atlanta lawyer in 1903, Hoke Smith supplied the first consolidated rural school in Georgia with school wagons, horses, and work-shop equipment. Later, as Governor, he became an extension agent and a boys' corn club leader—if his many visits to club meetings and his approval of appropriations by the Legislature for college extension work are worthy of placing him in this category.

It is no mystery to me that Lever emphasized the demonstration work and that Hoke Smith, who was elected United States Senator in 1911, supported college extension teaching.

It may be of interest to know that the first draft of Lever's bill for extension work was an experiment station product. He framed it in cooperation with the late B. H. Rawl, who had just come to the dairy division of the Department of Agriculture in Washington from the South Carolina Agricultural Experiment Station. Lever had his proposed bill printed and had sent a copy to each experiment station director before the adjournment of Congress in 1911. He received many letters from the directors after he returned to his home in South Carolina. For the most part, they objected to the legislation as an experiment station act, and referred him to the colleges.

The next year Lever and Smith drafted a college extension bill which immediately met with objections from some of the Federal extension workers. These gentlemen, to quote Lever, "were very much afraid that the U.S.D.A. would not have a large enough share in the handling of the work and the distribution of funds."

Lever states that as a result of the experiment station idea, the colleges also entered the picture. You know the rest of the history. You are also acquainted with the history of similar bills that had been introduced in Congress prior to

the introduction of the Smith-Lever Act. I do not know if these efforts influenced Smith and Lever, but the latter's interest in county-agent work around his home could have been responsible for the idea if no other effort had ever been made. Smith's activities in support of agricultural education movements before he entered the United States Senate should at least have prepared him to champion the Extension Act as well as the Vocational Act. Lever states that his incentive came from observation of the county-agent work in his home community and throughout his district and from his frequent conferences with his friend Rawl, who was a boyhood playmate from across the river.

Hoke Smith's last public appearance just prior to his death was at the annual State 4-H Club Camp at the University of Georgia. One of Frank Lever's last appearances was at the unveiling of the Knapp Memorial at the Department of Agriculture. To Seaman A. Knapp, Hoke Smith, and Frank Lever I am indebted for the opportunities I have had in the field of agricultural education.

WORLD WAR FOOD CONTROLS AND ARCHIVAL SOURCES FOR THEIR STUDY

ALMON R. WRIGHT

The National Archives

For the second time in the present century, the United States finds a necessity for widespread measures of defense. The mind of the public is largely concentrated on armaments and military training, but just as vital are measures to save life and preserve health. To a great extent these center around food: its production, its distribution, and its consumption. Consideration of war-time methods of food control is, therefore, of more than passing importance, and the following questions may well be asked. What safeguards are needed for insuring an ample supply of many varieties of food? What system of controls should be employed to prevent profiteering and speculation? How can price levels be stabilized? Are the facilities for transportation and storage ample? What methods have proved to be satisfactory in inducing wholehearted support from almost the entire public? These and other problems were faced by the Government in 1917 and 1918.

To provide solutions the United States Food Administration was created by Executive Order of August 10, 1917, pursuant to the objectives set forth in the Lever Act which became law on the same day.¹ Herbert Hoover was appointed Food Administrator by President Wilson, and a staff of experts, many of whom volunteered their services, was appointed from professional occupations and from the food industry. Many divisions were organized within the Food Administration to carry out its purposes. Commodity offices for grains, meats, perishable foods, canned foods, and others were established. To cover all foods along certain important lines, divisions were created such as those for licensing, distribution, enforcement, transportation, and education. The usual administrative machinery was included with offices to care for accounting, personnel, files, and other matters.² State and county food administrators were appointed for all the States and virtually all the counties, and these created miniature food administrations.

The records of the Food Administration together with its closely affiliated

¹ Executive Order 2679-A. For the Lever Act, see 40 *Statutes at Large*, 276. For documents relating to the enactment of this bill, see the papers in the Food Administration collection, now housed in The National Archives, which bear the series number FA 14H-B6.

² A short statement concerning the records of the Food Administration with bibliographical references is included in *Guide to the Material in The National Archives*, 191-194 (Washington, 1940). Short historical sketches of each division of the Food Administration may be found in the Introduction to the "Classification Scheme Records of the United States Food Administration," manuscript copies of which are available in The National Archives.

agencies, such as the Grain Corporation and the Sugar Equalization Board, were transferred to The National Archives in the late months of 1935 pursuant to an Executive Order which was signed by President Coolidge on December 31, 1927 and which anticipated the erection of the National Archives building.³ The collection is large, but it is easily consulted. Some 11,300 titles of series of papers, of bound volumes, and of cards have been described. These descriptions are set forth in a Classification Scheme and are arranged by those offices of the Food Administration which produced or assembled the files in the course of business. Hence, a research worker may find the primary sources relating to the meat packers in the Meat Division, and those on potato dealers in the Perishable Foods Division. On the other hand, for information relative to the transportation of potatoes one would turn to the Transportation Division papers. The records for any one office are described and arranged in part according to the form of the documents and in part according to the content of the records. Those series composed of correspondence are to be found together; questionnaires and reports are segregated, and record cards, irrespective of their content, have been described in separate groups of series.

In the spring of 1917, the United States entered the World War with the object not only of prosecuting the war on its own behalf but of giving all possible assistance to the Allies. The prospect of aiding in feeding the armies and civilians across the water was not an encouraging one. The wheat crops of 1914 and 1915 were abundant and permitted an export of 43 million barrels of flour from July 1914 to June 1917,⁴ but the crops of 1916 and 1917 were poor. The representatives of the Allies were under the dire necessity of bidding high, and the domestic purchasers became alarmed. The result was that prices of wheat and flour were driven to one of the highest points in American history. In the face of this situation what controls did Congress authorize?

The Food and Fuel Control Act which became effective on August 10, 1917 did not permit the Food Administration arbitrarily to fix maximum prices nor to buy any commodities for stabilization purposes with the exception of wheat. Police powers were not conferred upon that agency. Perhaps its chief weapon was the authority to license those who dealt in foods and collateral commodities. Nearly all wholesalers and manufacturers of foods and feeds were licensed. Some 260,000 licenses were issued to corporations, firms, and individuals. About three-fifths of these were "general licenses" authorized by a Presidential Proclamation of October 8, 1917, supplemented by certain others. The remaining 110,000 licenses were issued under special proclamations to salt-water fishermen, bakers, sugar and coffee dealers, and others. The licensing system did not extend, however, to retail dealers whose annual business was less than \$100,000. These businessmen were to a great extent beyond the direct authority of the Food Administration. Indirect influence, however, could be employed with speedy and decisive results, for general rule 17 of the regulations, which

³ Executive Order 4791.

⁴ *The Story of the United States Grain Corporation*, 1 (New York, 1920).

were applicable to all, prohibited any dealer from buying from or selling to any person guilty of hoarding or of obtaining profits in excess of what in the eyes of the Food Administration was reasonable.⁵

The records of the License Division and the papers in other divisions of the Food Administration pertaining to licensing are exceedingly voluminous. The main correspondence file measures 76 linear feet and is one of the largest units in the whole collection.⁶ To obtain the maximum use of this and other large files which are arranged by correspondent, the user needs first to have employed printed materials and other sources for information concerning the chief persons who were responsible for the formation and execution of policies. The series of license applications is likewise extensive. From these may be constructed a cross section of American economic life in 1917 and 1918 of great proportions and accuracy.⁷ The license files in the records of the State food administrators as well as of the Washington office lend themselves admirably to studies in State and local history.

Pursuant to the power to license, the Food Administration issued a considerable body of regulations applying to a large variety of commodities. The wheat-buying program and the rules governing it belong to the history of the Grain Corporation.⁸ Although the scope of this essay does not include this Corporation, the Fair Price Committee which laid the basis for this corporate undertaking by fixing upon a price for wheat should be mentioned. The Committee was composed of two representatives from the agricultural colleges, four from farmers' associations, two from labor organizations, two from business interests, the head of the Federal Tariff Commission, and the chairman, Harry A. Garfield, the President of Williams College. The papers of this group are to be found in the main collection of the Food Administration records, and, to the writer's knowledge, remain virtually untouched by economists and historians.⁹

The principal connecting link between the Grain Corporation and the Food Administration was the Cereal Division. It was the recipient of a vast number of reports which dealers in wheat, coarse grains, and their products were required to send to Washington. Brokers, buyers, commission dealers, elevator managers, importers, millers, shippers, manufacturers, and others advised the Government concerning the details of their business in monthly, quarterly, and sometimes weekly reports. They revealed the amounts of their purchases, sales, shipments, and stocks on hand, and the prices paid and received. The files of these reports are segregated according to the type of business firm as enumerated

⁵ U. S. Food Administration, *Annual Report*, 1918, p. 16-17.

⁶ FA 37H-A1; see "Statistics on Archival Collections Classified, November 20, 1939," a manuscript copy of which is available in The National Archives.

⁷ FA 37H-B1 to FA 37H-B16.

⁸ See Chester L. Guthrie, "The United States Grain Corporation Records in The National Archives," *Agricultural History*, 12: 347-354 (October 1938).

⁹ FA 5HA-C1 to FA 5HA-C5; U. S. Food Administration, *Bulletin 6*, p. 9-12 (Washington, 1917).

above.¹⁰ Grain millers' reports are classified in series according to the type of commodity. Hence, corn millers reports are separated from those of oats millers, wheat flour from wheat feeds, etc.¹¹ For a time the enforcement of the license regulations depended upon the information derived from these reports, but they also served to keep the Food Administration constantly informed as to the grain conditions throughout the country. From these reports the Army could be advised regarding a source of supply near a camp which was in need of replenishment. The Food Administration was in a position to inform the Railroad Administration as to the necessities for the movement of cars. The War Trade Board and the Shipping Board needed and obtained information on the quantities of grain available for export, and the Allies Provisions Export Commission, needless to add, was dependent upon the report system of the Food Administration.

To determine the success of the report system of control would require the patient effort of a thorough student. That it provided vital information to several agencies of the Government can scarcely be doubted, but that it proved to be a sufficient method for discovering profiteering may be questioned. In July 1918, field inspectors began to check the account books of millers, thereby indicating the doubts of the Food Administration as to the effectiveness of the reports.¹² The plan of calculating profits was modified. Each mill was afforded a price schedule for flour and wheat byproducts based upon the Government's basic wheat price, freight charges, and a charge for conversion of wheat to flour arbitrarily fixed at \$1.10 a barrel. Claims of success in reducing profits by this method of control were made and were presumably well founded. The millers' profit was said to have been reduced from 9 percent to 3 percent of the total cost of a pound loaf of bread, and the farmers' share rose from 30 percent to 40 percent of this total cost.

The attempts to regulate millers and dealers in grains and their products were attended by many difficulties and complications too involved to be included in this article. It may suffice to note one illustration. In the fall of 1917, prices in wheat mill feeds rose to exorbitant figures. Rules were established whereby the price of bran was fixed at a certain percentage of the cost to the mill of a ton of wheat. Upon the price of bran as a base were fixed the differentials for other mill feeds. The enforcement of such regulations was rendered difficult particularly by the chronic need of modifying and perfecting the regulations.¹³

The prices of wheat feeds and coarse grains exerted an immediate and pro-

¹⁰ The reports are to be found primarily in one large group of series in the Cereal Division records. They bear the symbols from FA SHA-C1 to FA SHA-C25.

¹¹ Millers reports series: FA SHA-C1, C2, C3, C9, C10, C13, C14, C17, C18, C20 to C22, C24, and C25.

¹² The files pertaining to mill audits and the collections of excess profits are classified in the Cereal Enforcement Section of the Enforcement Division, FA 44HF, and in the field audit offices, FA 44HG.

¹³ U. S. Food Administration, *Annual Report*, 1918, p. 17-19.

found influence upon the meat supply of the Nation. Regulations were issued to limit the profits of the meat packers. Not all could be treated alike. Many firms were small, limited in their capacity to produce and store, and unable to institute the refined processes of the great packers. The Food Administration differentiated in its method of control between the large and the small packers. The latter were restricted to a profit of $2\frac{1}{2}$ percent of their annual sales after such expenses as interest on borrowed money were paid. Federal taxes, however, were to be paid from the profits. The five great packers singled out for special treatment were Armour and Company, Cudahy and Company, Morris and Company, Wilson and Company, and Swift and Company. They were limited in their profits to $2\frac{1}{2}$ percent of their sales, but in addition, their total annual earnings were not to exceed 9 percent of their "average capital." Federal taxes, dividends, and interest on bonds were not to be included as expenses.¹⁴ The profits of the packers were subject to scrutiny by the Senate Committee on Agriculture and Forestry in 1919. Some papers and correspondence regarding that investigation are available in the Food Administration collection.¹⁵

Upon the large packers lay in reality the responsibility to provide the meat requirements of the Army and of the Allies. A considerable mass of papers relative to allotments of meat orders is classified in the Meat Division records and in those of the Division of Coordination of Purchases.¹⁶ The information which enabled the Food Administration to advise buyers as to reasonable prices and sufficient quantities came from the reports and questionnaires which were accumulated by the Meat Division and the Statistical Division.¹⁷

The meat packers were subject to the license regulations issued by the Food Administration to control the cold storage of foods. For commodities preserved and stored for a considerable length of time an attempt was made to fix maximum prices. Such prices were established in 1918 for cold storage eggs and for butter carried in stock from 1917. On both of these the cost of production could be accurately calculated. Rarely could costs be so definitely determined, and hence the Food Administration avoided definite price fixing. It prescribed margins for dealers in eggs, poultry, butter, and cheese. Resales were limited, and warehousemen were restricted in the amount of money which could be loaned on stored commodities. Warehouse rates were reported to Washington and the Food Administration established maximum charges and required thirty days notice for their alteration.¹⁸ The rate sheets were received, inspected, and

¹⁴ The policies and plan of operation of the Food Administration relative to meat are revealed in the series FA 1H-A4. For a brief printed statement, see *Regulation of Packers' Profits, Statement of Joseph P. Cotton*, issued by the Food Administration from Chicago shortly after the statement was made on November 24, 1917.

¹⁵ FA 14H-B2.

¹⁶ FA 15HB-B1 to FA 15HB-B3, FA 22HA-A12, and many series in FA 22HE and FA 22HF.

¹⁷ FA 15HA-B1, FA 15HA-B2, FA 15HA-B5, FA 17H-B18, and FA 17H-B19.

¹⁸ U. S. Food Administration, *Annual Report*, 1918, p. 27.

filed by the Cold Storage Section of the Perishable Foods Division.¹⁹ The object of the Food Administration was to eliminate speculation as far as possible, but it permitted liberal margins for "legitimate preparation in seasons of plenty for seasons of scarcity, which is absolutely necessary from the point of view of both producer and consumer."²⁰ Although there are several series of reports from cold storage warehouse operators, one file is sufficient for the needs of students. This file is arranged by States, includes various business statistics of both public and private warehousemen, and measures about 8 linear feet.²¹

The regulation of cold storage was only one aspect of the attempt to control perishable foods. Peculiar problems were confronted in this industry. Hoarding of fresh fruits and vegetables is nearly impossible; hence there was no problem of that nature. Conditions which affect the cost and the selling prices of perishables vary not only from one locality to another but from one hour of the day to the next. Spoilage, needless to say, is frequent, and the risks of spoilage are seldom absent. These factors led the Food Administration to the conclusion that license regulations relating to margins over cost were impractical in this business. It contented itself with trying to curb unfair practices, reduce waste, secure prompt handling, and limit charges of commission merchants.²² To keep in contact with the large number of firms and individuals engaged in handling perishable foods, the Food Administration developed an elaborate organization consisting of nine sections. Experts from the poultry and egg trade, the fish industry, the milk business, and from among the producers of fruits and vegetables volunteered their services. The correspondence files which resulted from their efforts are numerous and lengthy but unusually well indexed. Occasionally the correspondence may reveal decisions reached in conferences between the Food Administration and the trades. The minutes of such conferences are preserved and are easily consulted in the collection of the Perishable Foods Division.²³

Just as certain factors compelled the Food Administration to modify its general license regulations in their application to the perishable food trades, so also those regulations had to be adapted to the peculiarities of the canned-foods industry. The cost of the raw material is small in proportion to the total cost of the canned product. Differences in manufacturing expenses are wide, depending upon the plant equipment, transportation facilities, and other conditions. The delivery date is usually many months after the sale is consummated. The rule which prohibited contracts from calling for delivery over sixty days in advance could not be applied to the canned-foods business. Cannerymen reported

¹⁹ FA 35HC-B5 to FA 35HC-B7.

²⁰ U. S. Food Administration, *Annual Report*, 1918, p. 27.

²¹ FA 35HC-B1.

²² U. S. Food Administration, *Annual Report*, 1918, p. 26-27.

²³ The correspondence is listed under each section: FA 35HA to FA 35HJ; minutes of meetings: FA 35HA-B1, FA 35HB-C3, and FA 35HH-B2.

their estimates of costs to the Food Administration where they were scrutinized for obvious excesses. These reports are now listed under the Canned Foods Division and the Statistical Division.²⁴

The Federal Trade Commission collaborated with the Food Administration in attempting to establish controls over the canned-foods industry. One illustration may suffice. The Food Administrators of California, Oregon, Washington, and Alaska with a representative of the division in Washington, D. C., composed a committee which studied the problem and made recommendations on the price of raw salmon. On this base the Food Administration and the Federal Trade Commission combined their efforts and in effect fixed the price of canned salmon for 1918.

The influence of the Food Administration extended not merely to the field of prices and profits and to business men who set prices and made profits. Every consumer felt the effects of its control. Its methods of operation were not limited to rules, regulations, and licensing. It conducted a Nation-wide educational campaign and appealed time and again to the patriotism of all classes. The campaign to induce general cooperation in attaining the objectives of the Food Administration was estimated to have reached 14 million families.²⁵ The campaign to enlist retailers, many of whom were doing a business under the amount prescribed for a license, was considered particularly important. By first obtaining the cooperation of the wholesalers the Food Administration laid the basis of its control, and the 40,000 salesmen employed by the wholesalers became the willing instruments by which the retailers could be reached. Through this means over 400,000 retail merchants received the necessary impetus, and pledged themselves to take a reasonable profit and to afford the customer the advantage of moderate prices.²⁶

The success of the campaigns to obtain pledges of cooperation depended to a great extent upon voluntary willingness and upon the pressure of public opinion.²⁷ Dependence upon voluntary assistance, however, was not restricted to such campaigns. It may be considered as a basic factor in the system of controls. The subject has great possibilities of development for the economist and historian. The following discussion is intended to illustrate those possibilities and at the same time to indicate some of the factual high lights in this essentially democratic method of control.

²⁴ The Canned Foods Division collection is listed as FA 18H; in the Statistical Division may be found reports such as those for tomatoes and fish, FA 17H-B10 and FA 17H-B13; U. S. Food Administration, *Annual Report*, 1918, p. 25.

²⁵ Herbert Hoover, *Preface to a Report of the United States Food Administration* (Washington, D. C., April 1920). The voluminous papers of the pledge campaigns are to be found in the collection of the Office of the Pledge Card Campaign, Home Conservation Division, FA 5HC.

²⁶ U. S. Food Administration, *Enlisting the Food Merchants*, p. 3-6 (Washington, 1918).

²⁷ The possibilities of research on the influence of public opinion in food conservation are discussed in Almon R. Wright, "Records of the Food Administration: New Field for Research," *Public Opinion Quarterly*, 3:278-284 (April 1939). The subject is now receiving thorough study by Maxcy R. Dickson, a member of the staff of The National Archives.

An International Sugar Committee under the auspices of the Food Administration entered voluntary agreements with sugar refiners and agents of the Cuban producers for the disposition of the 1917 sugar crop. The Food Administration pursued the same method throughout 1918 by negotiating agreements with American beet and cane sugar producers.²⁸ When the Sugar Equalization Board, created to balance the prices of cane and beet sugars, superseded the Committee, it too entered agreements with representatives of the Cuban producers.²⁹

The use of rice as a substitute for wheat depleted the stocks of the former and an orgy of speculation seemed imminent. A series of conferences ensued between representatives of the rice producers and the Food Administration. The suggestion of an agreement of a voluntary character received endorsement. The rice millers agreed to a limitation on milling margins and to a maximum selling price. Two committees, one for California and one for the South, were created to supervise the fulfillment of the contract. Known as grading and classifying committees, these agencies were supported by means of a small charge paid by the millers.³⁰

The agreements established between the Food Administration and the associations and independent growers of peaches, prunes, and raisins were subjected to considerable strain. These producers for the dried-fruit market had to face the misfortune of a violent storm which reduced the crop considerably, but the agreements were maintained.³¹

The influence of the Food Administration extended not only to foods but to such collateral commodities as sisal and jute. The former is an absolute essential for binder twine and is obtained primarily from Yucatan.³² Jute bags were highly important in the distribution of commodities. In the case of sisal, the binder-twine manufacturers by agreement with the Food Administration entrusted negotiations with the representatives from Yucatan to that agency. Both the binder-twine and the bag manufacturers agreed to the measures suggested by the Food Administration to insure reasonable prices, elimination of speculation, and moderate profits.³³

The questions may arise: Were these agreements truly voluntary? Were there not pressures and hidden threats which compelled private business firms to enter these understandings? No adequate answers can be given, for these are problems which would require painstaking research. One further illustration may be stated, however, to show that offhand answers may not be well founded. In the winter of 1917-18, milk producers and distributors were

²⁸ FA 1H-A12 and FA 1H-A13.

²⁹ Joshua Bernhardt, *Government Control of the Sugar Industry in the United States*, 136-149, 160-176 (New York, 1920).

³⁰ U. S. Food Administration, *Annual Report*, 1918, p. 21.

³¹ *Ibid.*, p. 26.

³² See Almon R. Wright, "Sources for the Study of Wartime Relations between Latin America and the United States: Illustrations of Their Use," *Inter-American Bibliographical Review*, 1(1): 23-35 (Spring 1941).

³³ U. S. Food Administration, *Annual Report*, 1918, p. 39-40.

charged with profiteering. Lacking powers to compel an immediate acceptance of any plan of its own the Food Administration resorted to its general policy of negotiation and agreement. The agreements reached with the milk purchasers called for the creation of milk commissions. These were established for New England, Ohio, New York, and for the Chicago territory. The Commission for New York operated from December 1917 to July 1918. It ceased activities because the milk purchasers withdrew from the agreement. In March 1918, the Chicago Milk Commission experienced difficulties when some of the parties to the agreement withdrew.³⁴ The records left behind by these commissions are to be found classified, in part, with the State Food Administration collections, those for the New England commission in the Massachusetts section, for Chicago in the Illinois section, for Ohio in the Ohio section, but for New York they are in the Milk Section of the Perishable Foods Division collection.³⁵

Regulations and agreements restricting prices and profits would not serve to remedy an actual deficiency in a commodity. This problem could be solved only by increased production or decreased consumption or both. The outlook for a sufficient amount of wheat was not encouraging in the early months of 1918. For the first six months of that year, the needs of the United States were estimated at about 250 million bushels for direct consumption, a supply of some 30 million bushels for seed, and a certain amount for carry-over while the new harvest was reaching the market. However, the total amount of wheat available was estimated at some 313 million bushels. The prospect seemed to be, therefore, that the United States could feed itself, have a carry-over smaller than usual, but none at all for export. The Allies, however, required as a minimum 75 million bushels in that 6-month period. What was the outcome? The Allies received 85 million bushels.³⁶

This result was no small achievement for the Food Administration. The conservation controls employed deserve detailed study. One method was a restriction of the shipments of flour. Mills were not to ship more than 70 percent of the amount shipped for the same period in the previous year to the same territory. Jobbers were also limited to 70 percent of the amount of flour handled the previous year.³⁷ Bread bakers used substitutes at first to the extent only of 5 percent, then late in February the percentage was increased to 20 and in May to 25. Home bakers experienced the vicissitudes of the 50-50 rule which meant that for every sack of flour the housewife had to purchase an equal amount of corn meal, rice, oatmeal, or other substitute. State-wide campaigns were waged. Oklahoma and Texas undertook to abstain completely from the use of flour until the 1918 harvest was ready. Arkansas saved an amount of flour sufficient to load a special train of 127 freight cars. Hotels and restaurants

³⁴ *Ibid.*, p. 28-29.

³⁵ FA 122M, FA 114P, FA 136K, FA 35HH-B1. At least one other State had a Milk Commission and perhaps there were others.

³⁶ U. S. Food Administration, *Annual Report*, 1918, p. 9, 11.

³⁷ *Ibid.*, p. 29-30.

entered the conservation campaign. Some 500 leading hotel and restaurant men pledged in March 1918 to refrain completely from the use of wheat products, and 4,000 others followed this lead.³⁸

The records for a study of the conservation methods above outlined are rather widely distributed in the Food Administration collection. The Milling Division during the first year of its existence had its headquarters in New York, and it developed an elaborate field organization. The records of this period remain, to a large extent, segregated in the Food Administration collection and are arranged by divisions of the New York offices and by the field agencies.³⁹ From July 1, 1918, the Milling Division was moved to Washington and assumed a position as a section of the Cereal Division. The field activities were consolidated with those of the Grain Corporation. The papers of the Milling Section are classified apart from those of its predecessor.⁴⁰ For the part which hotels and public eating places performed in the conservation of wheat and flour one needs to consult not only the papers of the Division which promoted that campaign from Washington,⁴¹ but also the records of the State food administrators.⁴²

With the increased demand for coarse grains as a substitute for wheat, a dangerous diminution of the supply became imminent. The Food Administration issued regulations prohibiting the use of grain for the distillation of alcohol.⁴³ Our reduced consumption of sugar in the last war is too familiar to require elaboration. Many of us recall the pleasure with which we welcomed a per capita monthly increase of sugar from two to four pounds in November 1918. No less happy were the manufacturers of soft drinks and candy when the stringent conservation control was modified.⁴⁴

Efforts to save the supplies of collateral commodities were made by the Food Administration. In collaboration with the War Industries Board, the food authorities sought to reduce the use of tin plate by packers of baking powder, condensed milk, and other food products. The lack of shipping rendered it difficult to obtain from the British Empire the palm oil necessary for tin plate. Another collateral commodity was ammonia desired for refrigeration of foods and by the War Department for ammunition. The Food Administration waged a campaign with considerable success in the winter of 1917-18 to harvest natural ice. It also promoted the conservation of arsenic used for cattle dips and as an

³⁸ *Ibid.*, p. 9-10.

³⁹ FA 301 to FA 308 and for the field offices FA 311 to FA 318.

⁴⁰ FA SHB; a considerable part of the correspondence of the old Milling Division was consolidated with that of the Flour Department of the Grain Corporation, particularly the main file of that Department, FA 223-A1 which measures over 57 linear feet.

⁴¹ FA 43H-A1, a series of some 10 linear feet.

⁴² For example, see the Illinois administrator's collection for the pledges of hotel and restaurant operators, FA 114N-A1.

⁴³ In the series FA SHA-B7 are complaints and protests of brewers. U. S. Food Administration, *Annual Report*, 1918, p. 11-12.

⁴⁴ U. S. Food Administration, *Annual Report*, 1918, p. 11-13.

insecticide for crops. The War Department needed this commodity also for war purposes.⁴⁵

Stimulating the production of foods was chiefly the province of the Department of Agriculture. For a student of this economic subject, however, the records of the Food Administration should not be neglected. The increased wheat acreage was due primarily to that agency and the guaranteed price which its Grain Corporation offered. Flour mills were required to raise the percentage of extraction and thereby increase the supply of flour by nearly three million barrels. The Food Administration obtained an increased amount of extraction of edible oil from the cottonseed crushers. It encouraged the market for pinto beans, which were grown in dry-land areas but not sufficiently well known to be popular. To increase the supply of fish the Food Administration persuaded the War Department to permit the use of traps in hitherto unexploited waters. The Navy Department agreed to allow fishermen to enter certain zones otherwise barred because of the submarine menace. Conferences with State game and fish authorities led to the lengthening of the fishing season and to the removal of various restrictions.⁴⁶

The primary object of this essay has been to describe some of the high lights in the control of profits and prices, the method of negotiation and agreement, and the means of encouraging conservation and production. At the same time, many subjects for interesting and valuable research in these fields have been pointed out. The present economic and political orders are not so far removed from that of the World War but that the experiences of that period may be recalled and utilized with profit. It is also pertinent to point out that the system of controls of the Food Administration was peculiarly democratic. The emphasis was laid upon good will, voluntary agreement, and collaborative effort. Arbitrary measures, impatient action, and the use of force were avoided. Up to the close of 1918, the Food Administration prosecuted only 72 criminal cases. Of the 8,676 penalties applied, only 436 involved revocation of license and 7,781 took the form of contributions, refunds, and temporary suspensions.⁴⁷ In 1917, the conflicting methods were expressed thus:

⁴⁵ Papers relative to tin plate are grouped in the collection of the Canned Foods Division, FA 18HF; information on ammonia and arsenic may be obtained from the files of the Col-lateral Commodities Division, at one time known as the Division of Chemistry, FA 39H.

⁴⁶ One of the richest sources, not hitherto mentioned, for information on wheat in its various aspects is the records of the Wheat Department of the Grain Corporation, FA 222. The series of documents, correspondence, and reports of the Fats and Oils Division, FA 42H, present the results of pioneer effort in obtaining information in this field. On pinto beans see FA 18HB-A11 and FA 18HB-A12, and on fish see the 21 series of correspondence, largely broken down by subject content, in the Fisheries Section of the Perishable Foods Division, FA 35HB-A1 to FA 35HB-A21.

⁴⁷ Roland W. Boyden, "Report of the Activities of the Enforcement Division, United States Food Administration from January 1, 1918, to December 31, 1918," in U. S. Food Administration, *Annual Report*, 1918, p. 42-43. An editorial entitled "New Price Controls" appearing in the *Evening Star*, Washington, D. C., Apr. 12, 1941, refers to the enforcement measures of the Food Administration as drastic. This very dubious characterization is

It has often been asserted that "democracy can not make war efficiently," that before we can win, we must adopt autocratic methods. America to-day is fighting for democracy in a double sense.

It is striving to "make the world safe for democracy," and in doing this to prove beyond doubt that democracy can be efficient, that it can be so organized as to be infinitely more powerful than autocracy.⁴⁸

based on an erroneous statement that the Enforcement Division revoked 8,676 licenses and that the State food administrators revoked "an unknown number" in addition. The *Star* construed every penalty as a revocation whereas the above statistics show that the revocations constituted but 5 percent of the penalties.

⁴⁸ U. S. Food Administration, *Enlisting the Food Merchants*, 6.

NOTES ON THE EARLY HISTORY OF HORTICULTURE IN OREGON

WITH SPECIAL REFERENCE TO FRUIT-TREE NURSERIES

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The history of horticulture presents a romantic as well as a practical interest. In order to understand it completely, a knowledge of horticultural development from ancient and medieval times is essential. From the earliest centers of civilization, agriculture has developed in three stages—first, the domestication of animals; then, the growing of cereal crops; and finally, the evolution of horticultural plants and products, including fruits, vegetables, flowers, and ornamental shrubs and trees.

Evidences of the beginnings of horticulture are to be found in the Swiss Lake dwellings, in the hieroglyphics and pyramids of the Egyptians, and in the writings of the ancient Greeks and Romans. Rome, as the center of a vast empire, sent out representatives who were instrumental in taking horticultural plants to all the outlying areas. Thus, the grape, olive, fig, date, orange, cherry, apricot, and many other fruits were disseminated throughout the Mediterranean region. During the period of the Renaissance there were many travelers, among them, Marco Polo, whose accounts of the riches and fruits of the Orient undoubtedly encouraged Columbus to set out on the voyage which resulted in the discovery of America.

Horticulture was introduced into North America by white settlers from Europe, many of whom brought seeds and plants. The Spanish priests practiced horticulture in the southwestern portion of what is now the United States, and the colonists from Spain, England, France, and Holland introduced it in the southeastern and eastern sections. Seedling orchards sprang up wherever there were available spaces in the forests. In Florida, orange thickets developed so abundantly that they were often mistakenly believed to be indigenous, and later, with the arrival of missionaries from Spain and France, veritable plant introduction gardens appeared around the missions. These gardens were also prominent in the early horticulture of California.¹ Growing trees from seeds was popular at first, but the varieties developed were more or less dissimilar to the parent trees and in most cases of inferior quality; consequently, their fruit was used chiefly for cider, brandy, and similar purposes.

The desire of the settlers for fresh edible fruit continued. In 1728, John Bartram established the first botanic garden in America at Philadelphia. There he carried on plant breeding and hybridization and introduced many new varieties. He corresponded and exchanged plant materials with the leading authorities in

¹ B. M. Lelong, "Horticultural History," California State Board of Horticulture, *Annual Report*, 1892, p. 33-34.

both the New and Old worlds. Bartram was responsible for introducing the Petre pear, the first variety originated in America. This tree, grown from seed planted in 1735, still stands in Bartram's garden.²

Perhaps the greatest influence in the early horticulture of America was the Robert Prince Nursery, established at Flushing, Long Island, in 1730. It was begun by the Huguenot settlers at New Rochelle who had brought a number of French fruits with them. For a long time, it was known as the Linnean Botanic Nursery, and in 1771, it offered forty-two varieties of pears. Both the British and American armies are said to have protected the Prince Nursery from depredation during their successive campaigns on Long Island. According to some accounts, the British officers, following their observations in the New World, introduced some of the American varieties of fruits into England.

Another man of great horticultural significance was Bernard McMahon, who had a seed and nursery business in Philadelphia, and was an extensive collector and exporter of American seeds and plants. He had many eminent friends, including Thomas Jefferson, and, supposedly, was influential in planning the Lewis and Clark expedition. Later, Lewis and Clark collected seeds and plants in the Far West which were distributed by McMahon's firm.

Throughout the development of horticulture, the nurseryman and the seedsman have been pioneering agents. Their experimental work, importations, and introductions brought about the high standards which the American people enjoy in their fruits today. The commercial phase of fruit growing did not begin until the nineteenth century, when the growth of cities created a demand for fresh fruit and an increased desire for better varieties. Up to this time most of the trees were seedlings, but there was necessarily some selection of choice varieties for propagation by grafting.

During the nineteenth century, horticulture advanced rapidly. Impetus was given by the horticultural societies which were then being founded and by the numerous books and extensive experiments of gentleman farmers who had the where-with-all and leisure. These men wrote about the European experimenters, and Thomas Knight of England, who was much quoted, greatly influenced American horticulture. Many varieties of fruit were imported from the Old World. Most of them, after considerable trial, proved unsatisfactory in the new environments, but some of them were the foundations for leading varieties of today.

The Oregon Trail had a unique place in American history. It crossed vast regions where no game, fuel, or water could be found, and the many miles of its length included deep rivers, mountain ranges, terrific heat, clouds of dust, and hostile Indians. It was a trail of the home seeker and farmer, and those who traveled it came from every part of the country. The sequel is the fact

² S. W. Fletcher, *A History of Fruit Growing in Pennsylvania*; 1, *The Colonial Period (1623-1827)*, p. 10. Reprinted from Pennsylvania State Horticultural Association, *Proceedings*, 1931.

that Oregon became the early agricultural center of the Far West and has, in a special sense, pioneered in modern horticultural developments, not only for the Pacific coast but the Nation and the world as well. The long trek to Oregon by the first fruit growers and the story of their trials and successes are concisely told in the following excerpts.

Jesse Applegate, writing in 1843 about "A Day with the Cow Column," provided a truly classical historical description.

No other race of men with the means at their command would undertake so great a journey; none save these could successfully perform it with no previous preparation, relying only on the fertility of their invention to devise the means to overcome each danger and difficulty as it arose. They have undertaken to perform, with slow moving oxen, a journey of two thousand miles. The way lies over trackless wastes, wide and deep rivers, rugged and lofty mountains, and is beset with hostile savages. Yet, whether it were a deep river with no tree upon its banks, a rugged defile where even a loose horse could not pass, a hill too steep for him to climb, or a threatened attack of an enemy, they are always found ready and equal to the occasion, and always conquerors. May we not call them men of destiny? They are people changed in no essential particulars from their ancestors, who have followed closely on the footsteps of the receding savage, from the Atlantic sea-board to the valley of the Mississippi.³

According to William D. Brincklé, writing in 1860:

The repeated disappointments which have attended the cultivation of Foreign Fruits in this country, render it daily more manifest that our chief reliance must be placed on those of native origin. Though many of the trans-atlantic varieties possess undoubted merit, and richly deserve all the praise bestowed on them, a still greater number are of inferior quality, at least when fruited in this country—and of those that are of a high order of excellence, some are shy bearers, and others are constitutionally too tender to withstand the great and sudden vicissitudes of our variable climate . . . Many of our native fruits possess great excellence, and not a very few of them will successfully compete with the most celebrated kinds from the eastern hemisphere.⁴

Dr. John A. Warder, in his text on *American Pomology*, stated:

In tracing the progress of fruits through different portions of our country, we should very naturally expect to find the law that governs the movements of men, applying with equal force to the fruits they carry with them. The former have been observed to migrate very nearly on parallels of latitude, so have, in a great degree, the latter; and whenever we find a departure from this order, we may expect to discover a change, and sometimes a deterioration in the characters of the fruits thus removed to a new locality. It is true, much of this alteration, whether improvement or otherwise, may be owing to the difference of soil. Western New York received her early fruits from Connecticut, and Massachusetts; Michigan, Northern Illinois, and later, Wisconsin and Iowa received theirs in a great degree from New York. Ohio and Indiana received their fruits mainly from New Jersey, and Pennsylvania, and we may yet trace this in the prevalence of certain leading varieties that are scarcely known, and very little grown on different parallels . . .

Of course, we shall find many deflections from the precise parallel of latitude, some inclining to the south, and many turning to the northward. To the latter we of the West are looking with the greatest interest, since we so often find that the northern fruits do not

³ Jesse Applegate, *A Day with a Cow Column in 1843*, p. 12-13 (Chicago, 1934).

⁴ A. HOFFY, *North American Pomologist*, preface (Philadelphia, 1860).

maintain their high characters in their southern or southwestern migrations, and all winter kinds are apt to become autumnal in their period of ripening, which makes them less valuable; and because, among those from a southern origin, we have discovered many of high merit as to beauty, flavor, and productiveness—and, especially where they are able to mature sufficiently, they prove to be long keepers, thus supplying a want which was not filled by fruits of a northern origin.⁵

In discussing these settlers, Professor George W. Fuller said:

The earliest traders and settlers planted apple seeds. The most famous apple tree is at Vancouver, Washington, the seed of which was planted in 1825. Old trees are still bearing in all the Coast sections which were first settled and in the Colville and Okanogan countries. In the "Okanogan Smith orchard," some of the Baldwin, Bellflower, King and Greening apple trees have reached a height of forty feet, with a stump diameter of three feet and a spread of over fifty feet, and still bear heavy crops. Commercial shipments were first made in 1900, and in ten years the apple production centers of the country shifted from New York and Missouri to Washington and Oregon. The irrigated valleys of the interior produced large and beautifully colored varieties which speedily captured eastern and European markets.⁶

Mrs. Marcus Whitman included the following comments in her journal for September 12, 1836:

We are now in Vancouver, the New York of the Pacific Ocean . . . but before we reach the home of the chief factor, Dr. McLaughlin, we were met by several gentlemen . . . of the Hudson Bay Company, who invited us . . . to walk in the garden.

What a delightful place this is; what a contrast to the rough, barren and sand plains, through which we had so recently passed. Here we find fruit of every description, apples, peaches, grapes, pears, plums and fig trees in abundance; also cucumbers, melons, beans, beets, peas, cabbage, tomatoes and every kind of vegetable too numerous to mention. Every part is very neat and tastefully arranged, with fine walks, lined on each side with strawberry vines. At the opposite end of the garden is a good summer house covered with grape vines. Here I must mention the origin of these and apples. A gentleman, 12 years ago, while at a party in London put the seeds of the grapes and apples which he ate into his vest pocket. Soon afterwards he took a voyage to this country and left them here, and now they are greatly multiplied.⁷

The historian, Hubert Howe Bancroft, in his account of the occupation of the Columbia River region by the Hudson Bay Company recorded the following incident which occurred at Fort Vancouver in the spring of 1827.

The first fruit-tree grown on the Columbia sprang from the seed of an apple eaten at a dinner-party in London. The dinner had been given to Captain Simpson, of the company's coast service. One of the ladies present, more in jest than in earnest, took from the apples brought on with the dessert, the seeds; and dropping them into Simpson's pocket, told him to plant them when he should reach his Northwest wilderness. The captain had forgotten the circumstance until reminded of it while dining at Fort Vancouver in 1827, by finding in the pocket of the waistcoat which he had worn last in London, the seeds playfully put there

⁵ J. A. Warder, *American Pomology*, preface, 21-23 (New York, 1867).

⁶ George W. Fuller, *A History of the Pacific Northwest*, 330 (New York, 1931).

⁷ Mrs. Marcus Whitman, "Journal" (Original copy on file in the Carnegie Library, Walla Walla, Washington).

by his lady friend. Taking them out he gave them to Bruce, the gardener, who carefully planted them; and thence within the territory of Oregon began the growth of apple-trees.⁸

This tree, located in the southwest corner of the United States Military Reservation in Vancouver, Washington, is well preserved. It still bears fruit and is one of the historical points of Vancouver Barracks and the surrounding country.

In a footnote appended to the above excerpt, Bancroft quoted the following:

"My father [Dr. McLoughlin] and Mr Pambrun and Simpson were together, and they three planted them in little boxes. They kept little boxes in the store somewhere where they could not be touched, and put glass over them. I do not know how long they were there. By and by my father came to me and said, 'Now, come and see; we are going to have some apples.' They were all green, and by and by we got apples. Mr Pambrun was Mrs McCracken's father. My father used to watch the garden so that no one should touch them. At first there was only one apple on it, and that every one must taste. Lady Douglas will remember that. The second year we had plenty. They had no apples at Fort William that I can remember. The first one was not a red apple, but the second year we had red apples. It was ripe; the only apple on the little tree. It was a great treat, for everybody had just a little slice. There were a good many it had to go round among."

The Hudson Bay Company also imported the Catawba grape, the English gooseberry, and the cultivated strawberry, as well as the first cultivated rose. In 1833, there were 700 acres under cultivation, including the apple and peach orchards.⁹

One of the most interesting as well as important chapters in the development of horticulture in the Pacific Northwest was the Lewelling nursery. It had its inception in the load of nursery stock that Henderson Lewelling took from Iowa to Oregon by prairie schooner in 1847. The trip across the plains and mountains with the "Traveling Nursery" has been described as follows:

In the summer of 1847, Mr. Henderson Lewelling, of Iowa, brought across the plains several hundred yearling grafted trees—apple, pear, cherry, plum, prune, peach, grape and berries, a full assortment of all the fruit grown in the then far west. These were placed in soil in two large boxes, made to fit into a wagon-bed, and carefully watered and tended on the long and hazardous six months' journey with an ox team, thousands of miles to the banks of the Willamette, near the little townsite of Milwaukie, Clackamas county.

Here a little patch in the dense fir forest was cleared away with great labor and expense, and the first Oregon orchard was set that autumn with portent more significant for the luxury and civilization of this country than any laden ship that ever entered the mouth of the Columbia. A fellow traveler, William Meek, had brought a sack of apple seed, a partnership was formed and the firm of Lewelling and Meek started the first nursery in 1848. Roots from seedling apples planted at Oregon City and on French prairie, and sprouts from the wild cherry of the vicinity, and wild plum roots brought in from Rogue river valley furnished the first stock. And it is related, that one root graft in the nursery the first year bore a big red apple, and so great was the fame of it, and such the curiosity of the people, that men, women and children came from miles around to see it, and made a hard-beaten track through the nursery to this joyous reminder of the old homestead so far away . . .

⁸ Hubert Howe Bancroft, *History of the Northwest Coast*, 2:441 (*The Works of Hubert Howe Bancroft*, v. 28, San Francisco, 1884).

⁹ *Ibid.*, 442, n. 42.

The first considerable orchards were set on French prairie and in the Waldo hills and about Salem. . . .

About 1850, a Mr. Ladd started a nursery near Butteville, and in the same year Mr. George Settlemeir arrived by way of California with a good supply of fruit-tree seed, which he planted on Green Point, and afterward removed to his present home at Mt. Angel, where, as fast as his limited means would allow, a large stock of fruit and ornamental trees were accumulated, making in all, the largest variety in the territory. . . . This year [1850] Mr. Lewelling went back east and selected from the extensive nurseries of Ellwanger and Barry, and A. J. Downing, a large variety of young trees and plants, which he brought back via the isthmus of Panama. . . . [Mr. Downing made a mistake in digging Green Newtowns for Lewelling instead of Yellow Newtowns—several years later Lewelling introduced the Yellow Newtown—the first box of fruit sold at a dollar per apple, netting \$75.00 in Portland.]

The home market now showed many of the above-mentioned fruits, which were eagerly sought at fabulous prices. Apples brought as high as one dollar per pound by the box, and in Portland retailed at one dollar and fifty cents per pound readily, and all other fruits nearly as much.

Californians, fruit hungry, with plethoric purses, bid high for the surplus, and in 1853, a few boxes, securely bound with strap iron (as was the custom in those days to protect against fruit thieves), were shipped to San Francisco and sold for two dollars per pound.

In 1854 five hundred bushels of apples were shipped and returned a net profit of from one dollar and fifty cents to two dollars per pound. In 1855 six thousand bushels were shipped, and returned twenty dollars to thirty dollars per bushel. Young trees were now in full bearing, and the export of 1856 was twenty thousand boxes. This year one box of Esopus Spitzenberg paid the shipper a net profit of sixty dollars, and three boxes of Winesap were sold in Portland at one hundred and two dollars. From this time to 1869 the fall and winter shipments bimonthly to San Francisco, per steamer, were from three thousand to six thousand boxes.¹⁰

The following account of this journey is from a letter by a member of the Lewelling family to John Minto, dated January 27, 1884:¹¹

From my earliest recollection my father was an enthusiastic admirer of Oregon as represented in the accounts of the travels and experiences of Lewis and Clark, and the reports of some of the emigrants of 1843-4, who wrote to the papers of the western states.

Then the published journal of Col. John Fremont's earlier expedition revived in his mind the desire, long cherished, to see the Oregon country. . . .

By way of explanation so that it may be understood that the conception of and carrying out of the enterprise was not the result of any sudden conviction as to the importance of orchards and nurseries, but was rather the outcome of a train of circumstances the most prominent and controlling of which was his long and successful engagement in that business.

He began in Indiana in 1830. (He and his brother John were in partnership in the nursery business until 1841, first in Henry county Indiana and then in Henry county, Iowa.)

He moved to Iowa in 1837 and continued the fruit business there. (In the ten years Henderson Luelling lived in Iowa he returned fourteen times to the older settled country of Henry county, Indiana, near Newcastle, where great-grandfather, Meschach Lewelling, as

¹⁰ Oregon State Board of Horticulture, *Report*, 1898, p. 344-346.

¹¹ Jane Harriet Luelling, compiler, "Family History and Genealogy of the Luelling-Lewelling-Llewellyn-Campbell Families" (Original copy on file in the Oregon State College Library, Corvallis, Oregon). Loaned to the author by Mrs. W. J. Weinheimer of Corvallis, Oregon.

well as he and John had nurseries and orchards, and from there he moved many shrubs, vines and trees, and much nursery stock, some of which he sold to other nurserymen in Iowa and Missouri. Some of these trips were made in part by boat on the Ohio and Mississippi Rivers.)

In the fall of 1845 Henderson began to talk of moving to Oregon and during the following winter and spring disposed of part of his landed property, purchased work cattle and made other preparations for the journey. Having some difficulty in selling all of his land in time to complete arrangements before it would be too late to start, he decided to wait until the next spring and then take a good variety of grafted fruit trees.

When the next spring came he had procured a stout wagon, made two boxes 12 inches deep and of sufficient length and breadth that set in the wagon box side by side they filled it full. These boxes were filled with a compost consisting principally of charcoal and earth, into which about 700 small trees and shrubs, embracing most, if not all of the best varieties in cultivation in that section of the country, were planted.

The trees were from 20 inches to four feet high and protected from stock by light, though strong strips of hickory, bolted on to posts set in staples on the wagon box.

Three good yoke of cattle were hitched to that wagon. All other arrangements being completed we started from Salem, Iowa, on the 17th day of April, 1847 . . .

Father had charge of the nursery wagon and decided to bring it through in his own way and time, for it was already pronounced by some of the friends a very hazardous undertaking to draw that heavy load across the plains and over the Rocky Mountains.

It was necessary to water the trees every day after the dry weather set in, if possible to procure water, hence the load of that wagon maintained its maximum weight all the way across. But to every discouraging criticism Father invariably answered that as long as he could take that load without endangering the safety of his family he would stick to it. . . .

After passing over the great backbone of the continent at Pacific Springs, we crossed the desert to Green River, thence via Ham's Fork to Bear River, passing Soda Springs and crossing the Lava or Volcanic district. We passed Hot Springs and over the Portneuf Mountains to Fort Hall. Then down through the sandy sage brush plains, crossing Snake River twice, then through the Malheur and Powder River Valleys.

There we met Dr. Marcus Whitman, who piloted us over by way of Birch and Butter Creeks and Well Springs to Rock Creek.

He expressed high appreciation of the effort of Father to introduce grafted fruit into the country. . . .

There [Rock Creek] we changed the fruit trees to a lighter and better running wagon, by removing the two boxes to the other wagon box, and left the heavy wagon . . . and thus we continued our journey, reaching The Dalles about the first of October.

Here Father joined with others and constructed two boats to bring the wagons and other goods as well as their families to the long wished for 'Willamette Valley'. . . .

The fruit trees were taken out of the boxes when the boats were ready to start from The Dalles and duly wrapped in cloths to protect them in the various handlings and the frosty nights.

Father then spent some time in looking around the country, and about the 10th of December moved to a log cabin opposite Portland. . . .

From that point he took another look for a place upon which to make a home and plant his fruit trees.

He finally bought and moved on to the place joining Milwaukie, on or about the 5th of February, 1848. About one half of the trees survived the transition and they with some seeds we brought and with a few trees William Meek brought in a small box attached to the hind end of his wagon box, constituted the nucleus, or foundation of the first orchard of grafted fruit trees in the Oregon country.

I have no doubt that Wm. Meek got his idea as to bringing growing trees from my father, as he went to see William in Iowa after he (Father) had matured his plans for the trip and

they made arrangements to travel together, but owing to heavy loads and bad roads, we failed to reach the proposed rendezvous in time and never saw him until after we got here. I think Father did not know that William had the trees until he talked with him here.

A daughter [Eliza] of Henderson Luelling says her father took more care of those trees than he did of his family. Whether anyone had water or not the trees must be watered. They leaved out and bloomed on the journey and some of the bushes bore berries.

Mr. George H. Himes, curator of the Oregon Historical Society, Portland, has recorded the following incidents, told him by Alfred Luelling, son of Henderson Luelling:

I cannot remember the time when my father was not talking about making the trip to Oregon. It was on his mind constantly.

Beginning when he was a small boy in North Carolina (the Henderson family settled first in North Carolina and the second generation near Nashville where Henderson was born in 1806). One day when a small boy he put a stick in the ground and sometime later noted that it grew a leaf. It happened to be a willow stick. He said, "Daddy, daddy, look at this." The father was interested in the observation and talked to him further about plant propagation and demonstrated to his son the making of a graft by placing two sticks together. That led the boy to become more interested in plant propagation. When twenty years of age, he himself had a small nursery. Then in Henry County, Indiana, he branched out and had a larger nursery. In the meantime he had heard of the Oregon country and read Lewis and Clark's report. From this time on the West was continually on his mind. He experimented with various mixtures as regards their water-holding capacities. He found that pulverized charcoal and earth would hold water better than earth alone. This was the material he used later in packing the young trees for the trip across the plains.

On the journey across the plains Alfred drove the second team following the nursery wagon of which Henderson Luelling had charge.¹²

Mr. Himes, writing in 1910, said:

Many years ago I asked Alfred Luelling to give me the names of the trees his father brought to Oregon in 1847, and the following is the list thus secured, and I believe this is the first time that it has been made public:

Summer Apples—Sweet June, Red Astrachan, Golden Sweet, Summer Pearmain, Summer Bellflower.

Autumn Apples—Gravenstein, Red Cheek Pippin, Seek-No-Further, Rambo, King of Tompkins County.

Winter Apples—Golden Russet, Yellow Bellflower, Tulpahocken, Baldwin, Lady Apple, White Pearmain, Northern Spy, Esopus Spitzenberg, Winesap, Yellow Newtown Pippin, Jenning.

Summer Pears—Bartlett, Early Butter. Autumn Pears—Seckel, Flemish, Fall Butter. Winter Pears—Winter Nelis.

Cherries—Royal Ann, Black Tartarian, Black Heart, May Duke, Kentish.

Peaches—Crawford's Early, Crawford's Late, Golden Cling.

Grapes—Isabelle, Delaware, Concord.

Also Siberian Crab Apple and Orange Quince.

In this connection it may be stated that the first peaches in the Willamette Valley, so far as now known, were grown from pits brought across the plains to Oregon in 1844 by Rev. Edward Evans Parrish, who came from Ohio.¹³

¹² Author's interview with George H. Himes.

¹³ George H. Himes, "Historical Sketch of the Horticultural Society of Oregon," in Oregon State Horticultural Society, *Proceedings*, 1910, p. 95-96.

In his "Reminiscences of Seventy Years," William Barlow described how he too started for Oregon with a load of grafted fruit trees from the Middle West.

I had started from Illinois with a complete assortment of the best grafted fruit trees that Illinois could produce, and they were all growing and doing well. I could have got them through in good shape, but I met a lot of men from Oregon who were good intelligent men. I think Jason Lee was one of them. I showed him my young trees that were in a box that weighed about 300 pounds, dirt and all.

"What are you going to do with them when you get there?" one said.

"I am going into the nursery business," I replied.

"My dear sir," they said, "there is as good fruit in Oregon as anywhere in the world. There are old bearing orchards at Vancouver and in the French prairie, and you have the hardest part of the road ahead of you, besides you cannot get your wagons to the Willamette Valley without taking them to pieces in order to load them on the bateaus going down the Columbia River."

"Well, if that is the case, I might as well lighten up my load right here." So I dumped on the ground close up to Independence Rock [Wyoming] at least \$50,000.00. For, as it turned out, the box with all its contents could have set right in the wagon until it reached Oregon City. Of course we never dreamed of crossing the Cascade Mountains then. As it was, the watchman left with the wagons could and would have attended to them with perfect safety. But this opportunity was all gone now, so I turned my attention to preparing my apple seed for planting out in the spring. Good luck attended me, as almost every seed came up, and I had at least 15,000 young seedling apple trees that sold readily in the fall at fifteen cents apiece.

When I say I lost \$50,000.00 I mean just what I say. There were no grafted apple trees in the territory and I could have made a full monopoly of all the grafted apples and pears on the coast, as California had nothing but seedlings. Of course, you will once in a thousand times get a fine apple from the seed. In fact, that is the way all our fine apples and pears originate. But you might plant a bushel of seed all from the same tree and you would not get one apple of the same kind. But you can graft all the fine fruit into the seedling root and you will get just the kind of fruit that the graft is. Or even a bud put into seedling stock will have the same effect, but you must cut off the seedling stock above the bud. To substantiate what I have said about the value of the fruit scions or grafts that I dumped on the ground at Sweetwater close to the summit of the Rocky Mountains in 1845, I will just refer to Mr Henderson Luelling, who crossed the plains in 1847, two years later than I did, with substantially the same kind of fruit trees that I had, and he supplied the country as fast as he could grow the trees at one dollar apiece for one-year-old trees. I paid him in 1853 \$100.00 for one hundred grafted trees. I was talking with his son a few days ago about the profits to themselves and the benefits of their importation to the country, estimating it at a million dollars. I think their own profits ran up to hundreds of thousands, though Seth could not say how much money was made, as he was not in partnership with the old gentleman at that time. But Meek, his brother-in-law, was in with his father and built the Standard flour mill at Milwaukie out of his profits of the nursery. I think the nursery was the foundation for Meek's and Eddy's large fortunes. I would have been two years in advance of them, and I knew all about the nursery business back in Illinois. Eddy and Meek, I think, were both sons-in-law of Mr Luelling and were interested with him in all his successful business ventures. I only write this to substantiate what I lost by listening to men that I thought knew what they were talking about.

But I thought then and believe now that they thought they were telling me the truth.¹⁴

¹⁴ William Barlow, "Reminiscences of Seventy Years," in *Oregon Historical Society Quarterly*, 13:276-278 (September 1912).

The late Mrs. Mary Barlow Wilkins, in a personal letter to the author, gave her recollections of her father and his horticultural endeavors:

Many childhood recollections of the old fruit orchard on the Barlow farm swarm to my mind like apple blossoms in Summer breezes.

Soon after my father, William Barlow, arrived in Oregon City on Christmas day 1845, he met Dr. McLaughlin. A trustworthy friendship resulted in Dr. McLaughlin delegating him, then only twenty-three years of age, to buy a ship load of wheat and take it to San Francisco for sale. The result was highly satisfactory to both parties. With the young man's share of the profits, he bought land on the Upper Molalla prairie and there planted his first apple trees, about 1849.

It is true that my father discarded his grafted trees, but he retained a small sack of selected apple seed, with which he started a small nursery on his new home place. But he did not wait for their maturity but bought of Henderson Luelling grafted saplings for earlier results. This early orchard enabled him to sell his farm and engage in a general merchandise business in Canemah. Here in 1852, he married . . . So the store was sold and William Barlow . . . moved to his newly acquired farm on Barlow Prairie, which was owned by his father, Samuel K. Barlow. William Barlow's first experience in orchards enabled him to select all the known varieties. The seedlings he had planted were large enough to graft, so he bought scions from Mr. Lewelling and grafted many of his seedlings himself.

Among those that grew up and flourished I recall the following: and in my present day memory I can locate nearly all the trees in that 17 acre tract. I am not sure about the acreage but think my estimate is nearly right.

The Red Astrachans, Red Junes and Sweet Junes came first, then the Early Harvests, then came along the Golden Russets, every one a nugget, Roxberry Russets, Rambos with their watery cores, Yellow Bellflowers, Gloria Mundi (as big as my head) Sweet Pearmains, Rhode Island Greenings, Spitzenburg, still Hood River's pride, Waxens, best for jelly, Gravensteins, Baldwins and Northern spies, winter favorites.

There was a nursery but most of the first orchard between the house and big red barn was bought from Mr. Lewelling. This first orchard set out about 1853 was cut down in 1873. After the first Oregon regiment vacated the old farm and buildings in 1863, the place was in a sorry condition. So when my father moved back to the farm from Oregon City in '73 he had the first orchard cut down and the pile of limbs and roots loomed up as large as a modern bungalow. . . .

The first crop of apples off the new orchard brought \$5.00 per bushel. This price diminished year after year down to a wagon load for nothing to anyone who would come and get them. My father tried to make his apples pay by making barrels of cider, which never broke prohibition etiquette, for he put something, I do not know what into it, which kept it in the bounds of sobriety. Out of the pumice he made vinegar and the "harder" it got, the better it sold. We also dried apples in the sun and in several trials with store patented dryers. In the Yukon days my brother evaporated several hundred bushels for his Klondyke store.

At last in desperation, the lower limbs of the trees were cut off, so horses and plows could be utilized for grain between the apple tree rows. Our apple-wood pile kept up its bungalow shape as trees such as wine-saps, rambos and some freak seedlings were dug out. When I sold the farm to a thrifty farmer, he rooted them all out, as he said it was cheaper to buy apples, pears and plums than to try to resurrect our old trees. Now he has rotated different crops on the seventeen acres and gets a profit, renews the soil, and does less work on it.

I set out a new home orchard, but my purchaser preferred wheat, hay and oats.

My father had also put in about an acre of pears—the Buerre Easter, Pound for preserves in huge crocks, Seckle, so good for sweet pickles, Winter Nellis and others. Our plum orchard was mostly Green Gage and Jefferson. One Siberian crab. Cherry trees clustered around the dwelling house, Black Marelo, still there, Kentish and Royal Anns. We had

red, white and black currants, but no berries as wild blackberries supplied their deficiency, till the place was overrun with the ever-flourishing evergreens. And so my pomological recollections endeth but sweet memories are still extant.

J. H. Settlemeier related the following remembrances of sixty years of the nursery business in Oregon:¹⁵

Well do I remember my father selecting fruit tree seeds, in 1848, to bring with us for our new home in Oregon. St. Helens was then a rival of Portland. We planted those seeds in the Spring of 1850, in Oregon City. They germinated fairly well and made great growth. Moved them in the Fall of 1850, to the donation land claim, selected for the future home, where the town of Mount Angel is now located, in Marion County. Apples and other fruits were very rare in those days. To make the most of the small trees, they were cut into many small rootlets, and grafted to such varieties as then could be secured, which embraces most of the fine varieties of today. There were but few small nurseries in the country at that time. The principal ones were Lewelling, of Milwaukie, and Ladd, opposite from Butteville, across the Willamette River.

Both of those pioneers brought with them to this, then territory, most of the best varieties of fruit we have today. There have been but few varieties of apples or pears of merit added to these, since then. Our State has been extremely fortunate in originating new varieties of cherries, which now stand at the head of the list for merit. Fruit trees of bearing age (two years or older) were \$5 each, of which very few could be had, principally from Fort Vancouver.

I do not remember of having seen an apple here before 1855. At that time, a few were raised, principally seedlings, which were sold for \$12 to \$15 per bushel, to go to California. There were a few apples raised here before 1855, but as I was a small boy at that date, I failed to connect with any of them. There was a good demand for fruit trees at that time, principally apples, with but little call for pears, cherries, peaches or plums. Such a fruit as prunes, at that date, was not known. Those desiring trees had to go to nurseries in person, usually on horseback. . . . The usual price for trees from three to five feet, was 50 cents apiece for apples, and \$1 for other varieties. One dollar each, with like increase in price, for larger size. . . .

The planting of trees was limited by the quantity that could be secured. There was no such thing as importing, as we had but one steamer per month from San Francisco and everything coming from that direction must come around the Horn, or across the Isthmus of Panama.

I stayed with Father, helped him as best I could, ever seeking to get a little plot of ground of my own to raise trees on. The first I raised were a few in fence corners, but finally got a small tract, and raised a few hundred trees, then sold the lot to one Mr. Daugherty, near Parkersville, in Marion County, for \$60. Felt prouder of my success than in later years, when I sold bills amounting to thousands of dollars.

The nursery business increased very rapidly under the stimulus of apples at such fancy prices. The fruit was all first-class, with no fungus or insect pest to injure either fruit or trees.

Hood River, nor any other section ever raised finer fruit than was then raised in the Willamette Valley. California was the chief market for our fruits.

In 1857, the writer then being less than 18 years of age, in partnership with his brothers, William F. and Henry W., started a nursery in Linn county, where the town of Tangent now stands. After many years of doubtful existence, it finally expanded into a paying investment, under the management of H. W. Settlemeier. After a few years of its existence,

¹⁵ J. H. Settlemeier, "Sixty Years of Nursery Business in Oregon," in Oregon State Horticultural Society, *Proceedings*, 1910, p. 99-100.

William F. drew out. The demand for trees nearly ceased as soon as California began to raise her own fruit. Of the several hundred thousand trees planted in the beginning, the company never sold enough to pay expenses. Nearly all the stock was dug up and burned.

About the year 1860 or 1861, the late Jacob Fleischner went back to New York to bring out his future wife. . . . My brother William gave Jake, as we always called him, \$20 to get some pear seed, which he faithfully did. They grew fine and were the best we ever had, then or since. This gave us a very good stock of seedling pear, probably the best on the Pacific Coast, at that date. . . .

In 1863 I started a nursery of a few thousand trees, at Woodburn. After several years the demand for trees began to increase very slowly, and the nursery was increased to meet the demand. Most of the nurserymen of the country had dropped out by the way, before this. My first stock of trees did not exceed 500 for the first few years, but since has grown to 3,000,000 or more, from less than one-fourth of an acre to over 300 acres thickly planted.

Sales increased gradually from 1875 to 1893, when there came the panic of that year. There was no sale for nursery stock of any kind. The Woodburn nursery had to dig and burn block after block of the very finest trees that were getting too large for sale. Burned one block of Bartlett pear trees which would readily sell today for \$10,000. Also a block of Royal Ann cherry trees which would be worth \$8000. All along the line the same conditions existed. The firm sunk \$38,000 before the tide turned to a paying basis.

The demand for trees increased after the panic of the early days, until the last six years the demand has been very good.

California owes much to Oregon for the introduction of cultivated fruits. As stated by E. J. Wickson, the Lewellings were especially influential in improving the fruits of California.

The first cultivated fruits of the old era came to California with the padres. The first fruits of the new era came with the American pioneers. Though not a little inquiry has been made, it is not yet possible to declare definitely who brought the first budded or grafted trees upon California soil. It is a tradition in the family of Martin Lelong, who came to California as a member of Stevenson's regiment in 1846, that he brought with him a small lot of trees of French varieties of apples growing in a box, and that they were planted in Los Angeles.

In the fall of 1849, W. H. Nash joined with R. L. Kilburn in ordering from a nursery in western New York a small box of thirty-six fruit trees, which, packed in moss, well survived the journey around the Horn, arriving and being planted in Napa Valley in the spring of 1850. The shipment included Rhode Island Greening, Roxbury Russet, Winesap, Red Romanite, Esopus Spitzenburg apples; Bartlett and Seckel pears, Black Tartarian and Napoleon Bigarreau cherries.

Before the introduction of grafted fruit trees, and, indeed, for several years afterwards, there were many shipments of fruit-tree seeds from the Eastern States to California. Mr. Barnett planted Kentucky seed as early as 1847 in Napa county. T. K. Stewart brought to California with him, in 1848, about two hundred pounds of vegetable and fruit seeds, the latter including peach, pear and apple, all of which were planted on the American River, within the present limits of Sacramento, in the spring of 1849. At the same time he planted figs and olives, and, in 1851, seeds of oranges. From all these he secured bearing trees.

But these early efforts at improvement of California fruits were but faint forerunners of the zeal and enterprise which followed the great invasion by gold seekers. As soon as the first thought—to get gold directly from the soil—would admit the second—to get it indirectly, by agricultural and horticultural arts—there came a demand for something better than the wild fruits of the mountains, better and more abundant than the seedling fruits from the mission orchards. At first everything in the line of fruit-tree seed which could be obtained was planted. Thus the immediate vicinity of the mines soon began to show grow-

ing fruit trees. But seedlings of any kind would not satisfy the planters, and effort was put forth in every direction after grafted trees of the best varieties. Oregon had a few years the start of California as an inviting field for immigration and the advantage also of winning the attention of those who went out, not as gold seekers, but as agricultural producers. Oregon had grafted trees in bearing, and nursery stock as well, about the time the demand sprang up for it in California. Up to 1847 the cultivated fruit of Oregon consisted of seedlings introduced by the Hudson Bay Company in 1824, and by the early settlers from the Mississippi Valley. In 1847 Henderson Lewelling crossed the plains from Henry county, Iowa, to Oregon, bringing with him a pretty general variety of grafted fruits. He fitted up a wagon, selected small plants, and planted them in soil in the boxes. He arrived in Oregon, late in the fall, with three hundred plants alive. The same fall William Meek arrived in Oregon with a few varieties of fruit trees. He and Lewelling put their stock together, and commenced the first nursery of grafted fruits on the Pacific Coast about five miles south of Portland, on the east bank of the Willamette river. In March, 1851, grafts of apple, pear, peach, plum and cherry were brought to California by Mr. Seth Lewelling and sold in Sacramento.

Other commercial importations and shipments by planters for their own use were also made, so that the plantings of 1851-52 were quite large. Still there was great doubt as to the success of the trees. Mr. G. G. Briggs, after his great melon profits of 1851, went back to New York State for his family, and, returning to California, brought with him, as he says, "with no idea that they would succeed, but as a reminder of home," fifty peach and a few apple and pear trees. To his surprise, the trees grew well in 1852, and the next year blossomed and bore some of the best peaches he ever saw. The pears also bore some fine fruit the same year.

There were other introductions of grafted trees in 1852, for, at a fair held in San Francisco in 1853, there were several kinds of apples, grown by Isaac A. Morgan, of Bolinas, on trees planted the previous year. Apples were also shown from Napa. David Spence, of Monterey, showed the first almonds grown in California. During the winter of 1852-53 the distribution of grafted trees extended widely over the State. Five dollars for a small tree was frequently paid at the nursery in Oregon, and the trees were carried overland into the mining districts of California, as well as brought to San Francisco for distribution through the valleys.¹⁶

The varieties of fruit trees of eastern Oregon and Idaho had their origin in nurseries of the Willamette Valley, as indicated by the following account:

The first efforts to grow fruit trees between the Cascade and Rocky Mountains were by missionaries Spalding on the Clearwater River, and Whitman at his mission on the Walla Walla River, both in the spring of 1837, when seeds were planted. Those ancient orchards, like the memories of those who planted them, still resist the decaying hand of time. Something is still left of them all; left of those primitive orchards, an appearance of age and decay; left for those who planted them, neglected, isolated graves and a fading recollection as to what they have done to pioneer civilization.

An attempt at fruit-growing was made by Red Wolf, a chief of the Nez Perce tribe, at the mouth of the Alpowa Creek, Rev. Spalding planting the seeds for him in, possibly, the spring of 1837, but probably in 1838. In the spring of 1859 Mr. Clarke set out a nursery about one and a half miles south of the town of Walla Walla, on Yellow Hawk Creek. In the fall of the same year, James W. Foster brought fruit trees from over the Cascade Mountains and set them on his present ranch.¹⁷

¹⁶ Edward James Wickson, *The California Fruits and How to Grow Them*, 46-47 (ed. 8, San Francisco, 1919).

¹⁷ Wallace W. Elliott & Co., Publishers, *History of Idaho Territory*, 110 (San Francisco, 1884).

Fremont Wood, in commenting on the work of these nurserymen, wrote:

General Cartée, before coming to Idaho, was closely connected with the early pioneer and political history of Oregon. He was an engineer by profession and had a taste and desire for horticultural pursuits. He at once recognized the particular adaptability of the Idaho soil and climate for the production of nearly every variety of fruit, flower and vegetable grown to perfection in the temperate zones, and his experimental work along these lines had much to do with encouraging the development of horticulture during the subsequent years. . . . The early fruit trees were brought in long distances by freight and at great expense, and even after the completion of the Union and Central Pacific Railroads, for fifteen years fruit trees were brought into this district at a distance of two hundred and fifty miles by wagon freight from Kelton [Utah]. To obviate this expense, General Cartée established a nursery not only for the propagation of large and small fruits, but ornamental trees and shrubbery in addition. In this work he drew from many lands. His grounds in Boise City, before they were disposed of and platted for addition purposes, contained specimens from many different countries, conspicuous among which were the sycamore, linden and Norway pine. He also pioneered the early grape culture, introducing European varieties. A large floral establishment was included in his general scheme, and much of the early decoration in flower and shrub of "Boise the Beautiful" traces itself back to his work.¹⁸

Harold Rhodenbaugh made the following statement concerning the beginning of commercial drying in the Boise Valley.

The first prune drier in the Boise valley was built by Lafayette Cartee in the '70s. It stood at the center of the 25-acre nursery orchard of fruit and shade trees of many types, where Fourth and Grove Streets are now. The drier had a limited capacity and processed fruit from the first apple and prune trees planted in the valley in the late '60s. Practically all of these fruit trees were introduced by Cartee, who was a professional nurseryman.¹⁹

Thus, the horticultural influences which began in Rome centuries ago have spread around the world and may be seen merging on the Pacific coast. Horticultural species and varieties carried by the missionaries from the Old to the New World have become established, improved by culture, and transported and blended with other native and introduced sorts. Today a combination of old and new qualities from all over the world, such as may be found perhaps nowhere else, are grown by the commercial and amateur fruit growers of the Pacific coast.²⁰ Truly, Oregon was the cradle for what later became a gigantic industry.

¹⁸ Hiram Taylor French, *History of Idaho*, 347-348 (Chicago and New York, 1914).

¹⁹ Harold Rhodenbaugh in the *Idaho Sunday Statesman* (Boise), Nov. 25, 1928, sect. 2, p. 1.

²⁰ Erich Kraemer and H. E. Erdman, "History of Cooperation in the Marketing of California Fresh Deciduous Fruits," California Agricultural Experiment Station, *Bulletin* 557, p. 3-4 (Berkeley, 1933).

TIMOTHY PICKERING ON BEEF CATTLE, DAIRYING, AND CIDER

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INTRODUCTION

Timothy Pickering as the advocate of agricultural reform has always been overshadowed by Timothy Pickering the not too admirable Federalist politician. Few New Englanders of his day enjoyed a more widespread reputation as a writer on agricultural subjects. The letter by Pickering which is here printed for the first time was written to David Campbell in 1826 and is now preserved among the latter's papers in the library of Duke University. It reflects not only Pickering's knowledge of practical questions concerning agriculture but, to a pronounced extent, his wide reading on the subject. In fact, this one letter furnishes strong evidence of the truth of his biographers' claim that "he read all he could find in print on the subject."¹ On the question of agriculture, at least, he was in complete agreement with Thomas Jefferson in deeming it the most important pursuit of mankind.² The letter also sheds light on agricultural practices in New England and incidentally in Pennsylvania.

Pickering's career, although badly in need of fresh and unbiased presentation, is naturally much better known than that of David Campbell who sought information from the distinguished advocate of agricultural reform in a letter also reproduced below.³ Campbell, whose life spanned the years from August 7, 1779 to March 19, 1859, was a native of Washington County, Virginia. Endowed with unusual intellectual ability and some formal training, he continued his own education, becoming especially well versed in the writings of French thinkers of the eighteenth century. A true child of the reform spirit of the American Revolution, Campbell by his own efforts rose from poverty and a scribeship in the clerk's office of Washington County, Virginia, to comparative wealth and the governorship of his State from 1837 to 1840. He engaged in profitable mercantile pursuits during a portion of his active career and carried on farming operations throughout the greater part of his mature life.⁴ Campbell's interest in agriculture and his intellectual curiosity may well have been the

¹ Octavius Pickering and Charles W. Upham, *The Life of Timothy Pickering*, 2:489 (Boston, 1867-1873).

² *Ibid.*

³ A photostat of Campbell's letter to Pickering was made available by officials of the Massachusetts Historical Society. For a brief description of Campbell's letter in the index of the Pickering papers, see the Massachusetts Historical Society, *Collections* (ser. 6), 8:75 (Boston, 1896).

⁴ This summary of Campbell's career is drawn from Margaret Campbell Pilcher, *Historical Sketches of the Campbell, Pilcher and Kindred Families*, 37-101 (Nashville, 1911), and the large collection of David Campbell's papers in the library of Duke University.

motivating influences behind the formation of the Western Agricultural Society which he described in 1825 as having been recently organized. His letter to Pickering is noteworthy for two reasons. It indicates the organization and existence of an agricultural society hitherto unknown or certainly known to very few.⁵ It also foreshadowed the rise of the livestock industry as well as the production of apples in the limestone portion of the western part of present-day Virginia.

Pickering's reply, long and painstaking, indicates acquaintance with much literature on the issues raised by Campbell and, at the same time, reveals keenness of observation on practices current in 1826. Evidences of wide reading predominate so decidedly that Pickering might well be termed a "book farmer." As with other champions of agricultural progress in the United States during his day, Pickering's reading was generally confined to English works⁶ and his letter abounds with references to and quotations from English authors.

Pickering's observations concerning current practice in agricultural procedure in 1826 are numerous. In praising the barns built by farmers in Pennsylvania, he agreed with other observers of agricultural methods in that State. Besides paying tribute to the general excellence of agriculture in Virginia, he advocated increased attention to "corn and cob" meal which had recently been introduced into Massachusetts from Virginia.⁷ The practice of cutting corn stalks above the ear to obtain "tops" for forage, described by Pickering as universal in Massachusetts in 1826, could not, therefore, have been a shiftless practice peculiar to agriculture in the southern portion of the United States. In Virginia, on the other hand, "topping" corn had been customary at least a century before Pickering replied to the queries of David Campbell.⁸ As early as 1781, Pickering himself had observed "no other long forage than corn blades and tops" south of the Rappahannock in Virginia, although he considered much of the soil

⁵ The Western Agricultural Society of Virginia, probably short-lived like many of its contemporaries, is not mentioned by Lewis Cecil Gray, *History of Agriculture in the Southern United States to 1860* (Washington, 1933) nor by Alfred Charles True, *A History of Agricultural Education in the United States, 1785-1925* (U. S. Department of Agriculture, *Miscellaneous Publication 36*, Washington, 1929). A careful examination of the *American Farmer* for 1825 and 1826 reveals no mention of such a society.

⁶ Rodney C. Loehr, "The Influence of English Agriculture on American Agriculture," *Agricultural History*, 11:3-15 (January 1937).

⁷ Pickering's testimony does not agree with that of the Reverend H. C. Perley of New Rowley, Mass., who declared that he had originated the practice during the winter of 1807-08. Yet, in 1825, Perley referred to the erection of two "corn and cob" mills near him as if such mills were very rare. See *American Farmer*, 7:281 (Nov. 25, 1825). Evidence is stronger that the practice was older in Virginia. Peter Minor, an agricultural reformer of Albermarle County, Va., began using corn and cob meal as early as 1811. See *American Farmer*, 1:324-325 (Jan. 7, 1820). On May 15, 1812, a patent was issued to W. Mayo of Henrico County, Va., for a "Corn in the Cob, Grinding" machine. See M. D. Leggett, comp., *Subject-Matter Index of Patents for Inventions Issued by the United States Patent Office from 1790 to 1873, Inclusive*, 1:370 (Washington, 1874).

⁸ Hugh Jones, *The Present State of Virginia*, 40-41 (London, 1724, Reprint by Sabin, 1865), cited by Gray, *History of Agriculture in the Southern United States*, 174.

"'admirably adapted to the culture of lucern, and . . . timothy.'"⁹ Judging from this earlier observation by Pickering, the method of obtaining forage by "topping" corn was supplemented by the production of hay to a much more marked extent in Massachusetts than in Virginia. As may be noted from his reply to Campbell, Pickering reserved his greatest enthusiasm and his most patient research for the question regarding cider. This emphasis, no doubt, was due to the current impression that the farmers of New England could engage profitably in the cider-making industry by supplying the New York market.¹⁰

Pickering's letter, in the final analysis, represents the waning agricultural interest of his immediate locality in 1826; but, at the same time, it is a faithful echo of the interest which had occupied a large majority of the people of Massachusetts before the emergence of the new economic order produced by industrialization.¹¹ Campbell's letter, on the other hand, manifests a growing interest in new agricultural ventures for his region. The two letters present also a noteworthy and early illustration of the interpenetration of ideas between rural sections widely separated in distance.

DAVID CAMPBELL'S INQUIRY

Abingdon Virg^a. Dec. 8. 1825.

Sir,

As chairman of a corresponding committee of the Western Agricultural Society of Virginia, organized lately here, it has been made my duty to correspond with intelligent practical farmers in different parts of the country, with the view of obtaining information on every branch of domestic economy. In casting over in my mind, who I should trouble with enquiries on the subjects committed to me; I recollected many years ago hearing an old uncle of mine, Col^o Arthur Campbell,¹² speaking in very exalted terms of yourself—

⁹ Pickering and Upham, *Life of Timothy Pickering*, 1:298-299. Note also a letter signed by "Sidney" of Lexington, Va., Nov. 29, 1819, who "recommend[ed] cutting the tops" and described the practice of cutting the entire stalk as having originated among "feeders of stock." *American Farmer*, 1:306 (Dec. 17, 1819). For condemnation of "topping" and pulling blades from corn, soon after the date of Pickering's letter, see *Farmer's Register*, 2:91 (July 1834); 3:369-370 (October 1835), 661-662 (March 1836); 6:135-136 (June 1838).

¹⁰ *New York Statesman* quoted in *New England Farmer and Horticultural Journal*, 10:5 (July 20, 1831).

¹¹ For perhaps the earliest discussion of this revolutionary economic change in New England, see Frederick Jackson Turner, *Rise of the New West, 1819-1829*, p. 12-16 (New York, 1906). Later Turner discussed the change more fully in his *The United States, 1830-1850*, p. 45-47 (New York, 1935). The later discussion, however, was based largely on Percy W. Bidwell, "The Agricultural Revolution in New England," *American Historical Review*, 26:683-702 (July 1921).

¹² Colonel Arthur Campbell (Nov. 14, 1742-Aug. 8 [?], 1811) early in life achieved fame as an Indian fighter and later served as an officer during the Revolution. The greater part of his life was spent in the vicinity of Abingdon, Va.; but, during his later years, he removed to the region of Middleboro, Ky. Campbell was a farmer and an extensive reader. See Pilcher, *Historical Sketches of the Campbell, Pilcher and Kindred Families*, 53, 55-56, 71-73, 125-127. Dependence has also been placed on a sketch of Arthur Campbell by David Campbell, a letter of John Campbell to his son, James, Washington County, Va., Aug. 22, 1811, and several letters written by Arthur Campbell from 1785 to 1811, all in the papers of

and I had seen from the public prints that you were an experienced practical farmer. I have therefore ventured, without any personal acquaintance to ask your answers to the following enquiries.

What is your arrangement of a farm yard and houses for your cattle?—

What is your mode of feeding thro. the winter?—

What is your mode of fattening?—

What is your arrangement of a dairy?—

What is your mode of making cider?—

You will please excuse the labor I am about to impose on you and believe me

Most respectfully

Your Obt. Serv^t

DAVID CAMPBELL

Address on back:

Col^o Timothy Pickering

Boston,

Massachusetts.

TIMOTHY PICKERING'S REPLY

Salem, January 14, 1826.¹³

Sir,

I duly received your letter of the 8th of December, requesting answers to some questions in rural economy, in relation to my own practice.

My farming has been on so small a scale as to afford but little information to the occupants of the extensive farms in Virginia. Had I been a farmer in your State, I would long ago have resorted, for the best information, to Col. John Taylor of Caroline, who devoted I believe thirty years or more to the subject of Husbandry. The management of his large domain is detailed in his writings, particularly in a small volume called "arator," in which—passing over his political views, in the first sixty pages—are exhibited distinguished intelligence, science, and successful practice. The farmer who has converted old, worn out tracts of land into fertile fields of 200 acres, yielding an average product of fifty bushels of Indian corn per acre, must deserve imitation. His whole rural economy, including the feeding, clothing & lodging of his labourers, in which humanity was combined with utility, seems to me to merit the superior attention of all Virginian Farmers. Although he is gone, his works remain, and may be inspected. From these and his writings, I conceive those Farmers may derive the most useful lessons.¹⁴

Seeing, however, you have been pleased to ask some information from me, I will, in answering your questions, communicate what I think may be useful, without specifying my own particular practice—to which your inquiries are directed—but stating that course of management which, directed or influenced by my experience, and consequent ability to form a correct judgement of the practices of others, I would now pursue, were I setting out

David Campbell preserved in the library of Duke University. For the intimacy between Colonel Arthur Campbell and Pickering see the Massachusetts Historical Society, *Collections* (ser. 6), 8:72-74; these pages include briefs of 39 letters from Campbell to Pickering.

¹³ The parentheses and brackets in the letter are Pickering's. Footnotes 17, 23, 24, 25, 26, and 30 are also Pickering's, and this fact is indicated at the end of each note. However, the original symbols have not been retained. The remainder of the footnotes have been supplied by the editor.

¹⁴ John Taylor, *Arator; Being a Series of Agricultural Essays, Practical & Political*, 9-67 (ed. 2, Georgetown, 1814) contains the author's political views while the remainder of the work is devoted to the practical problems of agriculture. Taylor's position as a leader in agricultural reform is too well known for comment.

anew as a farmer.—I am no longer engaged in actual farming; having placed my farm in the hands of a tenant. Salem, the place of my birth, is my home, and here—the residence of my ancestors for near two hundred years—I expect my pilgrimage will end.¹⁵

Your first question is—"What is your arrangement of a farm-yard, and houses for your cattle?"

These were formed long before my purchase. The houses were two barns, not well contrived, but incapable of much improvement: they held most of my fodder, and covered my small stock of cattle. I could not afford to demolish them, and build new ones.

Near forty years ago, the revolutionary war having left me in Pennsylvania, I purchased land for a farm at *Wyoming*—(which the first settlers called Wilkesbarré) on the Susquehanna river.¹⁶ There were no buildings on it. In the construction of a barn, my object was to provide room for hay and every kind of fodder, on lofts, or boarded scaffolds; and under these, stalls for live stock. The barn was seventy four feet long and thirty four feet wide. In the middle, across the barn, was a threshing floor. The stalls were arranged to occupy three parts of the residue of the barn, for oxen, cows, and young cattle. The fourth part furnished room for horses, and for their *short-feed*—and for a cutting or straw-box. These four parts were at the sides of the barn. A passage six feet wide was left between them, for the convenience of cleaning their mangers, and giving them fresh food. This passage left fourteen feet on each side, for the mangers, the standing of the cattle, the trench behind them for their dung & urine, and a walk behind the trench.—This was a first essay, and on level ground. Were I to build again, the barn should be wider—not less than forty feet—and the stalls should be arranged across the barn; the rows of cattle to face each other, with a feeding passage five or six feet wide between them.

It is very desirable that the hay and all other dry fodder of the best kinds at least, should be deposited in lofts over the stalls in which such fodder is to be consumed—to save time, & prevent waste in carrying it from any other places. The quantities required for each range of cattle may be calculated; and the height of the fodder-lofts be so raised as to contain those quantities. A cubic foot of hay, closely compressed as it will be in a large and settled mow, will weigh six pounds.¹⁷ The floors of these hay-lofts should be more than six feet high, above the floors of the stalls, that men may tend the cattle without stooping.

In Pennsylvania, it is not uncommon to erect a barn on the slope of a hill; removing the sloping earth to form a level floor, where the cattle stalls are to be fixed; and thus gaining one story under the same roof: for on the walls of this story the barn is carried up, the floor of which is nearly on a level with the hill; by which means, carts and waggons are conveniently driven in and unloaded. Where such a rising ground near the farm-house is wanting,

¹⁵ See Pickering and Upham, *Life of Timothy Pickering*, 4:321-324, for a verification of Pickering's statement regarding his residence and occupation after 1820. In 2:278 Pickering's lands in Salem are referred to as his "patrimonial lands."

¹⁶ This reference is to his residence, 1786-1792, in the Wyoming Valley of Eastern Pennsylvania while on a mission from the legislature of that State to reconcile settlers from Connecticut with the Government of Pennsylvania. See Pickering and Upham, *Life of Timothy Pickering*, 2:197-509, and 3:1-44.

¹⁷ So said the celebrated Lord Kames, in his *Gentleman Farmer*, an excellent work, the result of his own experience: and I have an impression that a trial made by me, more than 20 years ago, corresponded with Lord Kames' statement.—*Pickering's footnote*. The reference is to [Henry Home, Lord Kames], *The Gentleman Farmer*, 52-53 (ed. 3, Edinburgh, 1788). The convenience of storing hay in lofts over stalls is emphasized, but apparently there is no statement concerning the weight of a cubic foot of compressed hay as given by Pickering. On p. 170, however, Lord Kames wrote, "A stack of ryegrass—hay, a year old and of moderate size, will weigh, each cubic yard, eleven Dutch stone. A stack of clover-hay in the same circumstances weighs somewhat less."

I have sometimes seen an under story obtained by erecting walls high enough to give room for cattle stalls, and upon those walls raising the barn. In this case the entrance to the floor of the barn is made easy by an artificial sloping bank of earth, supported on each side by a substantial stone wall.¹⁸

The Farm Yard appears to be the place on which English Farmers chiefly depend for collecting and making their manure. Their cattle (judging from their books of husbandry) appear to be fed chiefly in the farm yards, into which they carry abundance of straw; a large proportion of which, not being eaten, mingles with the dung and urine, and is converted into manure.

In the eastern parts of Massachusetts, we have not, as far as I know, any *grain-farms*, properly so called; altho' our farmers raise enough of Indian corn & rye—(together with a little summer wheat, on a few farms—) for their own bread, to fatten their own hogs, and stall-feed their cattle. We have consequently but small quantities of straw for our barn yards. The greatest quantity of litter for the yards is derived from Indian corn-stalks. Our practice is universal, to cut off the stalks above the ears, as soon as the grain in these begins to harden. Those tops are still green, and when well saved constitute a valuable fodder: but a portion of the stalks is generally left, and become litter. When our corn is ripe, it is commonly cut off within a few inches of the ground, and carted to a barn to be husked. The husks (what I believe you call shucks) remain on the stalks, when the ears are separated;¹⁹ and together with the stalks, are foddered to the cattle, either in their stalls, or in the barn yard. They eat the husks and blades, and leave most of the stalks, which constitute a material litter in the yard. They are called *butt-stalks*, to distinguish them from the *top-stalks* cut off as above mentioned. (Oats and barley are also grown; the former for horses, the latter for brewers; but neither in great quantities.

To increase his barn yard manure (for our barns constitute one side of the farm yard) every attentive farmer carts into his yard the mud from ditches and any other places where attainable. This is usually done as soon as leisure permits, after the yard is cleared of manure in the Spring; but many farmers remove the manure from their yards, in autumn; carting it to the field where it is to be applied in the ensuing spring.—As President of the Agricultural Society of Essex, I have, in my address, suggested the expediency of frequently carting earth & spreading it over the barn yard, to cover the dung and urine of the cattle, during the summer.²⁰ For there the cows are kept, from the time of milking in the evening till they are milked in the morning. But I have lately thought a better way would be, to gather up the dung every morning & wheel it to a heap, by which should be a heap of any loamy earth to cover it. For in our hot summer suns, the dung is soon dried, and much of its essence dissipated, as it lies scattered over the yard. This evil will be still more sensibly experienced in your warmer climate.

¹⁸ Note John Beale Bordley, *Essays and Notes on Husbandry and Rural Affairs* in Percy W. Bidwell and John I. Falconer, *History of Agriculture in the Northern United States, 1620-1860*, p. 122-123 (Washington, 1925). In 1797, Bordley wrote of the German farmers in Pennsylvania as follows: "Their barns on the sides of hills (which they chiefly prefer) may be built three stories high, instead of the usual two stories." See p. 123. Note also Luther H. Tucker, "The Agriculture of Chester County, Pa.," in New York State Agricultural Society, *Transactions* (1861), 21:149 (Albany, 1862).

¹⁹ In 1847, after the northern-bred editor, Daniel Lee, went to Augusta, Ga., to edit the *Southern Cultivator*, he wrote as follows in the *Genesee Farmer*, 8:274 (December 1847): "The ears [of corn] are picked and hauled in a big wagon to some convenient place to be husked or 'shucked'."

²⁰ Timothy Pickering, *Address to the Essex Agricultural Society*, May 5, 1818, p. 12 (Salem, 1818). Pickering made the same recommendations again in *A Discourse, Read Before the Essex Agricultural Society, in Massachusetts, February 21, 1820*, p. 7 (Salem, 1820).

I will now give you an account—not of a new manure—but of the immense value of one hitherto very little attended to—the urine of cattle absorbed in a loamy earth.

Lord Kames, in his *Gentleman Farmer*, strongly recommends the soiling of cattle, especially with red clover, which, he says, in rich land, in Scotland, grows to the height of three or four feet; and in that moist climate, yields a second & often a third cutting. Describing the building purposely erected in the Clover field, if distant, he says—"The channel or gutter behind the cattle, is lined with a deal [plank] in the bottom, and one on each side, to convey the urine from the cattle to a pit filled with rich earth; which I hold to be preferable even to dung itself."²¹—This intimation, I presume, gave rise to the important experiment I am going to recite: For the Scotch Farmers justly held that book on farming in the highest estimation.

The account of the experiment I here recite from the *Letters of Agricola*, printed in a newspaper at Halifax, Nova Scotia, a few years ago, and now collected & published in an Octavo Volume, entitled, "*Letters of Agricola on the principles of vegetation and tillage, by John Young*"; who was afterwards appointed Secretary of the Provincial Society of Agriculture.²² It is an excellent work; and has produced extraordinary improvements in the husbandry of Nova Scotia.

The Extract.

Mentioning the bad construction of their barns, he says—"The urine discharged by the cattle is squandered, & indeed altogether lost." The barns, he says, "being formed of wood, are mostly raised and propped on a foundation; & a floor of plank is invariably laid. The whole urine of the cattle, except what is absorbed by the dung, finds its way through the seams; and either oozes into the earth, or forms beneath the barn a fetid and noisome pool of standing water. The essential elements of vegetable matter with which it is surcharged, assume quickly the gaseous form; and either mount up thro' the floor, or escape by the side of the building. At all events, their fertilizing qualities are turned to no account; and the loss from this single circumstance, is ruinous beyond calculation. It may be necessary, in some measure, to ascertain the amount of this mischief, that we may set about correcting an evil of such formidable magnitude, with a vigorous and resolute energy. I should be afraid to hazard my character with the public, by stating in round and unqualified language, the value of this rich juice which is literally wasted and thrown away: and therefore I shall proceed with caution, and give a detail of facts, conclusive in their bearings, and substantiated by the best authority. They are contained in a letter from Charles Alexander, near Peebles, in Scotland; and are addressed to Sir John Sinclair in 1812, for publication. This intelligent farmer had long been impressed with the great importance of the urine of cattle as a manure; and he set about to discover, by a long and well conducted series of experiments, the best method of collecting and applying it. He began, by digging a pit contiguous to the feeding stall, but distant altogether from that which was appropriated for the reception of the dung. The dimensions of this pit, according to his account, were 36 feet square, and four feet deep, surrounded on all sides by a wall; and the solid contents were 192 yards. Having selected the nearest spot where he could find loamy earth, and this he always took from the surface of some field under cultivation, he proceeded to fill it; & found that, with three men and two horses, he could easily accomplish 28 cubic

²¹ The quotation is from Kames, *Gentleman Farmer*, 179, but the italics are Pickering's. Note p. 124 and 172-174 for Kames' discussion of red clover; he stated that it grew luxuriantly on rich soil, reaching "eighteen inches before flowering," and that it could be cut three times per year.

²² John Young, *The Letters of Agricola on the Principles of Vegetation and Tillage, Written for Nova Scotia and Published First in the Acadian Recorder* (Halifax, N. S., 1822). For data on Young, see J. S. Martell, "The Achievements of Agricola and the Agricultural Societies, 1818-25," *Nova Scotia Public Archives, Bulletin*, 2(2):1-48 (Halifax, 1940).

yards per day; and the whole expense of transporting the earth did not exceed £ 4.16.0 [\$21.31]—When the work was complete, he levelled the surface of the heap, in a line with the mouth of the sewer, which conducted the urine from the interior of the building, on purpose that it might be distributed with regularity, and might saturate the whole from top to bottom. The quantity conveyed to it he estimates at about 800 gallons: but as this calculation was founded partly on conjecture, for he measured not the liquor, it will be better and more instructive to furnish and proceed *on data* that are certain and incontrovertible. The urine was supplied by 14 cattle, weighing about 34 stone each,²³ and kept there for five months on fodder and turnips.²⁴—The contents of the pit produced 288 loads; allowing 2 cubic yards to be taken out in 3 carts;²⁵ and he spread 40 of these on each acre;²⁶ so that this urine, in five months, and from 14 cattle, produced a compost sufficient for the fertilization of seven acres of land. He states further, that he had tried this experiment for ten years, and indiscriminately used in the same field either the rotted cow dung, or the saturated earth; and in all the stages of the crop, had never been able to discover any perceptible difference. But what is still more wonderful, he found that his compost lasted in its effects as many years as his best putrescent manure; and he therefore boldly avers, that a load of each is of equivalent value. Conclusions of vast importance are deducible from this statement: and I cannot resist the feeling of placing them in a strong, and advantageous light. They speak a volume of instruction; and if we are willing to learn, they must lead to a very material alteration in the construction of our barns.—It appears then, that in five months, each cow discharges urine which, when absorbed by loam, furnishes manure of the richest quality, and most durable effects, for half an acre of ground.—The dung pit which contained all the excrementitious matter of the 14 cattle, as well as the litter employed in bedding them, and which was kept separate for the purpose of experiment, only furnished during the same period 240 loads, and these, at the same rate, could only manure 6 acres. The aggregate value of the urine therefore, when compared with that of the dung, was in the ratio of 7 to 6; so that we are borne out by these premises in this extraordinary inference, that the putrescible liquor which in this province, and under the management of our farmers, is wasted and annihilated as far as regards any useful purpose, is intrinsically worth more than the dung, as an efficacious & permanent dressing."²⁷

Nobody could doubt that urine was a useful manure; but that it is, what Mr. Alexander's ten years experiments proved it to be, of more value than the dung of the same cattle, is a *discovery*, and of immense importance. It may be said, perhaps, that the loamy earth from a cultivated field materially contributed to the fertilizing effects of the urine: but the litter-beddings of the cattle may be set off against it.

Second Question. "What is your mode of feeding during the winter?"

Our winters are so cold as to require that all our cattle be housed; and the usual practice I take to be, to feed them three times a day—morning—noon—and evening. Oxen when not at labour, cows not in milk, and young cattle, are fed with an ordinary hay the produce of wet ground—of peat meadows particularly—butt-stalks of Indian corn, barley and oat

²³ [Of course about the size of common cows.]—*Pickering's footnote.*

²⁴ [The turnips liberally given, as usual in Britain, would make much urine.]—*Pickering's footnote.*

²⁵ [Single horse carts, I suppose—as they are much used in Scotland.]—*Pickering's footnote.*

²⁶ [Equal to 1½ English statute acre.]—*Pickering's footnote.*

²⁷ This extract is a faithful quotation, the chief alteration lying in the use of ampersand. See Young, *Letters of Agricola*, 216-218. Pickering used a substantial part of this same quotation in *An Address, Delivered Before the Massachusetts Agricultural Society at the Brighton Cattle Show, October 9th, 1822*, p. 13-15 (n.p., n.d.). In this case he quoted from Young's work as it had appeared in the *Farmers Magazine*, published in Scotland.

straw. Oxen at constant labour, & cows giving milk—to make the most of both, must have good upland hay, and some Indian corn meal—or cob-and-corn meal, or roots equivalent. In Great-Britain, a bushel of roots a day would be thought a scanty allowance. Turnips of every kind serve for all kinds of cattle, cows in milk excepted. For the latter, carrots and Mangel Wurtzel surpass all other roots. As to potatoes, there is some diversity of opinion; but (without having made comparative experiments myself) I am inclined to think that when given *raw*, altho' they increase the *quantity*, they do not add to the *richness* of the milk. It is but within a few years that roots have been raised for the feeding of cattle; and now the practice is confined to a small proportion of our farmers. Potatoes grown within reach of a market town, are too valuable to be given to cattle; and the small size of the plants of carrots and mangel wurtzel, infested with small weeds, and consequently the tedious operation of the first cleansing them, seem to have discouraged their more extensive culture. But if a good loamy soil, enriched with manure, be planted with Indian corn or potatoes; and if while these are growing the ground be repeatedly stirred, to encourage the germination of the seeds of weeds, & then to destroy them while young; and if none be suffered to grow and ripen their seeds,—the same ground may be cropped with carrots & mangel wurtzel, in the succeeding year, and the first weeding be rendered easy. If Indian corn be the antecedent crop, any quantity of manure may be applied. The crop of corn will be proportionally large, and yet leave the ground in a condition to yield a large crop of carrots or mangel wurtzel: the latter yields the greatest quantity.

In an English work (an octavo volume) entitled "The Complete Grazier," is given the practice of Mr. Curwen, (member of Parliament from Cumberland) in feeding his milk-cows. The daily cost of their food is thus stated:

Chaff, 2 stone [28 lbs] steaming &c.....	1 penny
Oileake four pounds.....	4
Eight stone [112 lbs] of turnips.....	4
Wheat straw.....	1
[18 1/2 cents.] total	10 pence sterling ²⁸

On this mode of feeding, his average quantity of milk, on a stock of 36 cows, was nearly 13 wine quarts [about 10 beer quarts] per cow, for 320 days, which was sold at two pence per wine quart. The calves brought from £ 2.— to £ 5.— for rearing. The entire produce is stated by Mr. Curwen to be nearly half clear profit, estimating the manure as equal to the calves. The cows were never suffered to be turned out; and to prevent their being lame, their hoofs were properly pared, and they stood with their feet on clay. His cows are thus managed from October to June, nearly eight months.

Where there is a market for milk, the profit of cow-keeping is greatest. In our large towns the price of new milk is five cents per beer quart. It will take about 12 such quarts to make a pound of butter, averaging, when fresh, 20 cents a pound—one third only of the product of the simple milk.

Question 3d. What is your mode of fattening?

Essex county has so many market towns to be supplied daily with the products of neighbouring farms, that very few cattle are fattened, beyond the demand of the farmers families. For the most part Beef is furnished from farms more remote.²⁹

²⁸ A careful examination of the anonymous work, *The Complete Grazier: or, Gentleman and Farmer's Directory* (ed. 4, London, 1776), reveals no account of Curwen's practice. Possibly the account was given in some other edition.

²⁹ See Bidwell and Falconer, *History of Agriculture in the Northern United States*, 224-227. Note especially the statement on p. 227: "Grass-fattened cattle and sheep were driven from Maine to the markets at Salem and Boston, beginning about 1820 at the rate of several thousand each year." Note also the *New England Farmer and Horticultural Journal*, 10:335

The few cattle I have fattened were in a good pasture during the summer; and if not fat enough on grass, were for a short time stall-fed with the best hay and Indian corn meal. If, as sometimes it happened, they refused the meal, when first offered, a few roots, of which they were fond, being cut in pieces & covered with meal, would in a few days overcome their aversion to meal; and afterwards nothing seemed more acceptable.—But a practice has been recently introduced, of grinding the cobs of Indian corn with the grain.³⁰ The cobs thus ground & mixed with the meal of the grain, qualified the latter—like straw cut & mingled with rye meal—a food so much used by the farmers and waggoners of Pennsylvania. The straw is necessary to distend the stomach and intestines; and in ruminating animals is important for chewing the cud. Stall-fed cattle seem not be in danger of being cloyed with cob-and-corn meal;³¹ as with meal alone: and I have seen a statement from which it appeared the cob-and-corn meal was very nearly equal to clear meal, measure for measure, in fattening cattle. The trial was made by a farmer in Massachusetts, and reported to the Trustees of our State Society of Agriculture.³²

But in England, you are doubtless informed, that fattening cattle not finished on grass, are abundantly supplied with roots, especially with turnips. In Norfolk, bullocks put up in common plight, in Autumn, are fattened on turnips and straw (chiefly wheat straw) so as by the months of March and April to find a ready sale in the London Smithfield market. They eat from one third to one half their weight of turnips in 24 hours; the straw being given only “to clean their mouths,” as the English books express it:—I should add—give them a cud to chew.

Fourth Question. “What is your arrangement of a dairy?”

My dairy is in the northeast corner of my cellar, plaistered, and paved with brick. In the summer, the pans of milk are set on this pavement. Light is admitted by a glazed window, which may be opened at night: but to prevent the entrance of vermin, the window frame should have fixed in it a wire grating. To shut out the *direct rays* of the morning or evening sun, oiled paper, which would admit the light, but obstruct the direct rays, would be preferable to glass.—But no dairy rooms are equal to those erected over cold springs; such as are common in Pennsylvania, conveniently near the farmers' houses. The walls are of stone. The water issues into a trench at the middle of one side, passes round on the two adjacent sides, and escapes at the middle of the side opposite to that where it enters. The trenches being level, the water in them is always at the same height. In these trenches are set the pans of milk, as well as the cream pots. The residue of the area of the milk room, is paved with stone or brick, as well as the trenches. It is from these Spring-Houses that the farmers in the neighbourhood of Philadelphia send such delicate butter to that market, during the hottest weather in summer.³³

I prefer tin pans to any others, for setting the milk for raising cream; and they are in common use among our farmers. They are light, and kept clean more easily than any other

(May 2, 1832) for a statement that Brighton “ranks as a cattle market second only to that of Smithfield in England.”

³⁰ I think I first heard of this practice as having been introduced into Virginia, 15 or 20 years ago; and the meal was fed to horses.—*Pickering's footnote.*

³¹ The word “to” preceding the infinitive “be” is omitted in the original.

³² A detailed report, made by Asa Rice, Jr., of Shrewsbury, Mass., Nov. 20, 1822, to the trustees of the Massachusetts Agricultural Society, appeared in the *Massachusetts Agricultural Repository and Journal*, 7:294-299 (January 1823). A copy of Rice's report was kindly furnished the editor by Dr. B. B. Wood of the Goodell Library, Massachusetts State College, Amherst, Mass.

³³ A more detailed description of dairies built over springs in the Philadelphia area was given by Pickering in *An Address Delivered Before the Massachusetts Agricultural Society at the Brighton Cattle Show, October 9th, 1822*, p. 17-18.

creaming vessels. They are round, and will conveniently hold four quarts of milk, at a depth of two or two and a half inches.

The great product of milk yielded by Mr. Curwen's cows, is to be ascribed materially to their daily allowance of 112 lbs of turnips. Such milk may serve a milk market where, from habit, the consumers become insensible to a peculiarity of flavour: but I consider it to be a settled point, that turnips and cabbages fed liberally to cows, injure the flavour of the milk & butter. I found that only half a bushel of Swedish turnips given daily to each of my cows rendered their butter disagreeable. For oxen, cows not in milk, & young cattle, both kinds of turnips are extremely beneficial. If your climate will admit of having cabbages in the field during the winter, they would be a useful food.

Carrots and the Great Beet (*Mangel Wurtzel*) surpass all other roots for cows giving milk. They increase its quantity, and produce fine butter. In this, English and American authorities concur.

In summer, our common pastures are very often pinched with draught, and the second crop of clover is cut short. Green Indian corn will supply the deficiency. There may be several successive plantings, even in our climate—from early May to the middle of July. No green food that I know of contains so much saccharine matter. Our northern corn, rising to the height of only six or seven feet, seems to be better adapted as food for cattle than yours which grows to double that height, with its strong woody fibres;³⁴ but this, cut before it flowers [tassels] must be tender. An acre of ours, cut to the ground just when the ears are in the milk, and the whole plant juicy and tender, will yield ten or twelve tons, on land that ripen forty bushels. Cut in a straw box to convenient lengths (two or 3 inches) it will be eaten up clean. A middle sized cow I found would eat about 70 lbs in a day; at which rate, one such acre would feed ten cows for a month.

Question 5th. What is your mode of making cider?

To answer this fully would require a treatise.³⁵ Let me recommend to you to procure a treatise on the pear and apple, & cider and perry, by that experienced farmer and eminent Naturalist, Thomas Andrew Knight Esq. now President of the London Horticultural Society. I had the 2d edition;³⁶ but a fourth has been published—probably with improvements. I have not heard of any American edition; tho' I presume it may be found in some of our bookstores.

In Rees's *Cyclopedia*, printed in Philadelphia, from the English edition, you may find, under the article Cider, a great deal of information, including some of Mr. Knight's.³⁷

³⁴ The word "its" may be "is" in the original.

³⁵ See *An Address Delivered Before the Massachusetts Agricultural Society at the Brighton Cattle Show, October 9th, 1822*, p. 18-20, for a discussion of cider by Pickering. The discussion, however, is not so exhaustive as the one in this letter to Campbell.

³⁶ Thomas Andrew Knight (1759-1838) was born in Herefordshire, the center of the cider industry in England. He achieved fame as a vegetable physiologist and horticulturist by experimentation with the production of new varieties of fruits and vegetables. Knight was a friend of Sir Humphrey Davy and a fellow of the Royal Society. He served as president of the London Horticultural Society from 1811 until his death and was a member of many American societies. Knight's work, referred to by Pickering, appeared first in 1797. See *A Treatise on the Culture of the Apple & Pear, and on the Manufacture of Cider and Perry* (ed. 2, London, 1802); and *Dictionary of National Biography*, 31:263-264. For further evidence of the high regard in which Knight was held by agricultural leaders in the United States, see *Farmers' Register*, 3:141 (July 1835); and *New England Farmer and Horticultural Journal*, 10:105, 285, 321 (Oct. 19, 1831, Mar. 21, Apr. 25, 1832).

³⁷ *The Cyclopaedia; or Universal Dictionary of Arts, Sciences, and Literature*, edited by Abraham Rees (American ed. 1, 41 volumes, Philadelphia, n.d.). This work, generally known as *Ree's Cyclopaedia*, has no pagination, but the article on "Cyder" appears in volume

Perhaps you may find in some bookstores in Baltimore, Philadelphia or New-York, Mr. Marshall's "Rural Economy of Gloucestershire, including its Dairy, together with the Dairy Management of North-Wiltshire, and the Management of Orchard & Fruit Liquors in Herefordshire."³⁸ —The latter is the great English Cider county.³⁹ The best cheese I ever tasted was the North Wiltshire.⁴⁰ This work of Marshall's is in two octavo volumes; which I hold of great value for his useful information on the subjects embraced by its title. He mentions the cider of the Hagloe Crab, as "a liquor which for richness, flavor, and *price on the spot*, exceeds, perhaps, every other fruit liquor which nature and art have produced. Mr. Bellamy, owner of an orchard of this crab, Marshall says "had been offered sixty guineas for a hogshead (about 110 gallons) of his liquor. He had likewise been offered bottle for bottle of wine or spirituous liquors, the best to be produced; and this without freight, duty, or even a mile of carriage to enhance the price."—Many persons who hear of English *crab* cider, suppose it is made of the natural wild sour crab; but the English farmer, when he finds an apple *raised from the seed*, to be a good cider apple, calls it a *crab*; and after it has been propagated by grafting, it is still called a *crab*.—The Hagloe crab above mentioned, Marshall thus describes. "While growing it is nearly white; when fully ripe it has a yellow cast; sometimes freckled with red on one side.—The flesh remarkably soft and wooly, but not dry; being furnished with a sheer, but, when fully ripe, sweet juice; which, however, is much smaller in proportion to the quantity of fibrous matter, than that of most other apples."—"The cider, notwithstanding the sheerness of the juice, is, when properly manufactured, singularly rich; and, notwithstanding the faint smell of the apple, is highly flavoured; and what is equally remarkable, the liquor is of the highest colour, notwithstanding the paleness of the fruit."⁴¹ William Coxe Esq.^r of Burlington, New Jersey, had the name of the Hagloe Crab in his catalogue of apples in his extensive nursery.⁴² I have been induced to give you the description of this extraordinary apple, as it may lead to a trial, of any apples in your district, of a similar character. The best cider I ever tasted in the county of Essex, where I live, was made wholly of sweet apples.

Altho' I cannot undertake to give a long detail on the making and management of cider, I will make a few general remarks.

1. To make the purest cider, no apple wholly or partially rotten should be used.—What sort of wine would be expected from rotten grapes?

2. Apples do not acquire their highest flavour until *mellow ripe*. If not of this quality when gathered they should be kept till they are thus mellow; and under cover if practicable, before they are ground.

11. From Knight's work, *A Treatise on the Culture of the Apple & Pear*, large portions are quoted almost verbatim in *Ree's Cyclopaedia*. Compare especially p. 48, 107–110, 115–137 in Knight's work with the article on "Cyder" in *Ree's Cyclopaedia*.

³⁸ [William] Marshall, *The Rural Economy of Gloucestershire; including its Dairy: together with the Dairy Management of North Wiltshire; and the Management of Orchards and Fruit Liquor, in Herfordshire* (2 vols., ed. 2, London, 1796).

³⁹ *Ibid.*, 2:206; Knight in *A Treatise on the Culture of the Apple & Pear*, 106–107, noted that the farmers of Herefordshire were "extremely wellskilled" in the manufacture of cider. Note also p. 115.

⁴⁰ See Marshall, *Rural Economy of Gloucestershire*, 2:161, for the statement that North Wiltshire cheese "has of late years become so high in fashion, as to fetch fifteen or twenty shillings, a hundredweight, more, at market, than thin cheese, of perhaps a superior specific quality."

⁴¹ *Ibid.*, 218–220.

⁴² William Coxe of Burlington, N. J., was one of the foremost fruit growers of the United States from 1794 to 1817. See Carl Woodward, *The Development of Agriculture in New Jersey, 1640–1880*, p. 40–42 (New Brunswick, 1927); and Harris P. Gould, "William Coxe," *Dictionary of American Biography*, 4:489–490.

3. When ground for cider, the pomace should be put into vats or tubs from 12 to 24 hours—according to the state of the weather. The surface will turn of a brown or deep bay colour, and give a richer liquor.

4. The most essential part in the management of the *must* (the liquor unfermented, as it comes from the cheese) regards the *first* fermenting process. This may be in vats or tubs—if the quantity be not great—or in casks *not filled* to the bunghole. Mr. Knight directs to leave some space above the surface of the liquor and the upper side of the cask.⁴³ In a barrel, I should not fill it by a gallon. In a hogshead I would leave more room—leaving the bung out. In a few days (sometimes in four or five, according to the state of the weather) a thick scum of pomace will appear on the surface, of a brown colour. It should be observed daily. As soon as this scum or crust breaks, showing a white froth in the cracks, immediately draw it off into clean casks. These may be filled. Should a fresh fermentation occur, it must be again racked off.—Some persons—and it is perhaps the most common practice—fill their casks with the liquor from the press, and keep filling it daily, in the expectation that all the feces will work off at the bunghole; but I am entirely satisfied that this is an error. I do not believe that all the fine pomace which rises to the top of the fermenting liquor finds its way to the bunghole; on the contrary, much of it undoubtedly adheres to the upper part of the cask. It is this scum which having once risen to the surface, & floating there for some days, and then descending, excites anew & continues the fermentation, which renders the liquor hard & austere. Of this I will give you an instance, when I was a young man.

My father was accustomed to put his cider into hogshead and tierces.⁴⁴ Of two loads, each containing eight barrels, directly from the press, there remained half a barrel of each. I threw them into a large tub, placed on the bottom of the cellar. Very soon the particles of fine pomace rose to the surface. About the fifth day, this scum or crust was very thick, and began to break, showing a white froth at the cracks. Immediately I skimmed off this crust, with great care, to prevent the precipitation of any part of it among the cider. I then put the liquor into a barrel, which it completely filled—leaving at the bottom of the tub the heavier feces which had never risen to the surface, in this first fermentation.—At this time, the cider in the hogsheads and tierces was in brisk fermentation, so as to make a hissing noise—the bungholes being all open. The next day I looked at my solitary barrel; and found it as quiet as simple water. I put in the bung, tho' loosely, still expecting a renewed fermentation, but it remained perfectly quiet. In the following February or March I drew it off; and was gratified in finding it a high-coloured, mellow, & pleasant liquor. At the same,⁴⁵ all the cider in the hogsheads & tierces, which was allowed to ferment without any check, was pale in colour, hard & harsh; like the farmer's cider generally in New England; and I may add, in Old England, where, according to Mr. Marshall, the like inattention to the fermenting process is general.⁴⁶ The Herefordshire farmers nevertheless drink it most abundantly; and are liberal in treating with it their occasional guests—assuring them it will do them good, *if they can get it down*.⁴⁷

In all my inquiries about cider-making in New Jersey, particularly in Newark, which

⁴³ Knight, in *A Treatise on the Culture of the Apple & Pear*, 116, recommended that "a cask . . . should want a gallon of being full."

⁴⁴ Bidwell and Falconer, *History of Agriculture in the Northern United States*, 99-100, stated that cider was the common drink in New England before the Revolutionary War. Note also Harry J. Carman, ed., *American Husbandry*, 41-42 (New York, 1939).

⁴⁵ The noun "time" following the adjective "some" was omitted in the original.

⁴⁶ Marshall, *Rural Economy of Gloucestershire*, 2:318-319.

⁴⁷ This statement is from Knight, *Treatise on the Culture of the Apple & Pear*, 135. The italics are Pickering's.

furnishes much of an excellent quality to the New-York market,⁴⁸ I found the farmers payed the closest attention to this first process—even to sitting up at night (as I was informed) to watch the breaking of the scum or crust; when they immediately drew it off into barrels; the fermenting casks being mounted high enough on frames, to place the empty casks below, to receive the racked liquor.

Every boy who eats an unripe sour apple, knows how much the acidity is lessened by bruising it thoroughly, even without breaking the skin. Mr. Knight supposes that during the process of grinding, the apples absorb a portion of vital air from the atmosphere [and an additional quantity must be absorbed by exposing the pomace to the air, for 24 hours, before it is put up into a cheese to be pressed.] The essential benefit of exposing the pomace to the air, is demonstrated by Mr. Knight. He says—"I have often extracted, by means of a small hand-press, the juice of a single apple, without having previously bruised it to pieces; and I have always found the juice thus obtained, to be pale, and thin, & extremely defective in richness, though the apple possessed great merit as a cider-fruit. I have then returned the expressed juice to the pulp, which I have repressed after it has been exposed, during a few hours, to the air and light; and the juice has then become deeply tinged, less fluid, and very rich. In the former state it apparently contained but a small portion of sugar; in the latter, it certainly contained a great quantity."—The component parts of sugar (he remarks) are well known: it consists of vital air (oxygen) inflammable air (hydrogen) and charcoal (carbon.) The two latter substances are evidently component parts of the apple, and it appears possible that these, during the process of grinding, may absorb, and combine with, a portion of the vital air of the atmosphere." "It is well known (he continues) that vital air is absorbed by Barley, during its germination; and that a considerable portion of sugar, which did not previously exist in the barley, is then generated; and there can be no doubt, but that the vital air, then absorbed by the barley, afterwards exists as a component part of the sugar."⁴⁹ —Until I saw these remarks of Mr. Knight, I, who am neither chymist nor naturalist, had supposed that sugar existed originally in barley; and that it was merely *evolved*, in the process of malting, and rendered sensible to the taste.

Your letter dated Dec^r 8. came to hand on the 27th. Other occupations have prevented an earlier answer. If my answers and observations fall short of your expectations, I trust they will in some degree be useful.

I remember my corresponding with Col A⁵⁰

Memorandum of
David Campbell
on back of letter:

Timothy Pickering
Jan. 14, 1826
To the Committee
of Correspondence
Agriculture

⁴⁸ This statement may be accepted since New Jersey was the center of apple culture from 1785 to 1810. See Woodward, *Development of Agriculture in New Jersey*, 42. In Carman's edition of *American Husbandry*, 102, the author, in speaking of New Jersey, wrote that "they make cyder in vast quantities." See also *New England Farmer and Horticultural Journal*, 10:5 (July 20, 1831) for a statement regarding "the reputation of making good cider" attributed to New Jersey and Dutchess and Orange counties, New York.

⁴⁹ The three quotations in this paragraph are from Knight, *Treatise on the Culture of the Apple & Pear*, 112-114.

⁵⁰ The remainder of the sentence and the signature are torn off the original letter. The correspondent referred to was Colonel Arthur Campbell. See footnote 12 above.

THE EFFECTS OF SLAVERY UPON NONSLAVEHOLDERS IN THE ANTE BELLUM SOUTH

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Perhaps no interpretation of the economic history of American Negro slavery is more generally accepted today than that the institution was detrimental to the nonslaveholding whites of the South. There have been frequent expressions of the view that the master class knew its own interest. Occasional admissions of doubt that emancipation conferred economic benefits upon the typical Negro are encountered, but it would be difficult to find any divergence from the opinion that the peculiar institution was a curse to the nonslaveholding whites. The fact that the latter did not become abolitionists is usually attributed to ignorance of their own interests, domination by the slaveholders, racial prejudice, or fond expectations of rising into the master class.¹ It is the purpose of this article to attempt to show that the commonly accepted interpretation requires great qualification to bring it into accord with the truth.

In 1860 approximately one-fourth of the white families of the South were slaveholding and three-fourths nonslaveholding; and of the slaveholding families a great many had only one or two slaves each. In earlier years of the period, the proportion of slaveholders was slightly larger.

The slaves and slaveholders were very largely concentrated in belts—the so-called black belts—which coincided with the areas devoted to the growing of staples, chiefly cotton, tobacco, sugar, and rice.² There were also many slaves in the cities and towns in or near the staple-growing areas. These had been marked out by climate, the character of the soil, and, not least, by accessibility to market. Cotton, for example, for climatic reasons could not be grown to advantage north of an irregular line crossing North Carolina, Tennessee, and Arkansas. South of this line cotton was grown on the better lands which lay within reasonable distances of navigable rivers or of railroads. Some of the best of the present-day cotton lands were not utilized for that crop as late as 1860, because they were too far from navigable rivers while railroads had not yet penetrated into their vicinity.³

The great majority of the nonslaveholding whites lived outside the principal staple-growing districts in what is commonly called back, up, or hill country,

¹ See, for example, William E. Dodd, *The Cotton Kingdom*, 32 (New Haven, 1921).

² Ulrich B. Phillips, "The Origin and Growth of the Southern Black Belts," *American Historical Review*, 11:798-816 (July 1906).

³ Very illuminating on this point is Charles W. Ramsdell, "The Natural Limits of Slavery Expansion," *Mississippi Valley Historical Review*, 16:151-171 (September 1929).

or in mountainous regions. In these areas there were comparatively few slaves. The people were mostly small farmers and, because of lack of markets or inaccessibility to them, were engaged in a more or less self-sufficing agriculture with much household manufacturing.

It is difficult to see how people living in the back country could be injured by slavery in the black belts. Except possibly to a slight extent and in a most indirect way, it was not slavery which prevented them from producing staple crops for market; it was inaccessibility. Such markets as they had for their surplus bacon, lard, mules, whiskey, etc. were chiefly among the planters or in the towns which served the staple-producing districts. Insofar as it was slavery which caused planters to concentrate on the growing of the great market crops while purchasing various supplies elsewhere, the institution created markets for back-country farmers and thus benefited them.

It is said that slavery had driven nonslaveholding whites out of the black belts and out of staple production and had thus worked them a great injury; that, had it not been for slavery, more of them would have lived in the staple-producing regions and raised the great market crops and would have had a higher standard of living on that account.

This time-honored indictment of the peculiar institution has such great plausibility that its validity has seldom been questioned. The black belts were a fact. Even nonslaveholding whites who lived in the staple-growing areas did not produce the staples in quantities proportionate to their numbers. Virtually all the sugar and rice and the bulk of the cotton and tobacco were produced by slave labor. In 1850, according to J. D. B. DeBow, there were about 800,000 slaves engaged in cotton growing and only about 100,000 whites, and there is no reason to doubt the essential accuracy of his estimate.⁴ Much the greater part of the cash farm income of the South was received by a comparatively small number of planters, all of whom employed slave labor, of course. In the cotton States in 1850, according to William E. Dodd, "A thousand families received over \$50,000,000 a year, while all the remaining 666,000 families received only about \$60,000,000."⁵ This may also be accepted as approximately accurate. Yet, in spite of such prima facie evidence, the contention that slavery drove nonslaveholding whites out of staple production and thus did them a great injury contains considerably less than a half truth. Both the extent to which slavery excluded nonslaveholding whites from commercialized agriculture and the extent of the injury caused by such exclusion have been greatly exaggerated.

It is recognized at the outset that the problem involves not only the question of the comparative effectiveness of Negro slave labor and free white labor, but also that of the efficiency of the plantation as compared with the small farm as a unit of agricultural organization. The plantations of the ante bellum South

⁴ J. D. B. De Bow, *The Industrial Resources, etc., of the Southern and Western States*, 1:175 (New Orleans, 1852-1853). See also A. N. J. Den Hollander, "The Tradition of 'Poor Whites'," in William T. Couch, ed., *Culture in the South*, 411 (Chapel Hill, 1934).

⁵ *Cotton Kingdom*, 24.

were operated with slave labor almost exclusively. Almost all white agricultural workers were employed on small farms; very few served as wage earners on plantations. Moreover, the plantation system could not have existed extensively in the ante bellum South without slave labor, for the simple reason that, where land was cheap and plentiful and it was easy to become an independent farmer, free whites would not work for low enough wages, in large enough numbers, and with a sufficient degree of regularity to permit large-scale farming.⁶ White indentured servitude, with which the earliest plantations had been started, was an impossibility in the ante bellum period. Therefore, any competitive advantages which the plantation may have possessed over the small farm as a unit of farm organization must be accredited to the institution of slavery.

In sugar and rice culture the plantation undoubtedly had great competitive advantages over the small farm.⁷ Sugar growers who owned sugar-making machinery had a great advantage over those who did not, and the machinery was so expensive that only large producers could afford it. The cost of building levees also was conducive to large-scale operations. The plantation had similar advantages over the small farm in rice growing. Since plantations would have been impossible without slavery, it is proper to conclude that slavery kept small farmers from growing sugar cane and rice or, at least and more probably, from growing other crops on lands which were actually devoted to sugar and rice.

In the growing of cotton and tobacco, however—and these staples employed about eight slaves to every one in sugar and rice—it is very doubtful that the plantation was superior to the small farm as a unit of agricultural production.⁸ The planter might buy supplies, sell his produce, and obtain credit—a very doubtful advantage—on somewhat better terms than the small farmer. Joseph C. Robert has described the marketing of tobacco in ante bellum Virginia in great detail. The buyers were very numerous, widely distributed, and quite competitive. The planter seems to have had little advantage over the small farmer

⁶ This point has been developed at greater length in Robert R. Russel, "The Economic History of Negro Slavery in the United States," *Agricultural History*, 11:308-321 (October 1937). Only whites of the poorest quality worked as farm laborers in the Old South—that is, when they worked at all. Often young men of a better sort worked for neighbors for hire (sometimes as overseers) until they could accumulate the little capital required to start farming on their own account. People who worked regularly at trades or other occupations occasionally worked for farmers at harvest or other special seasons when wages were temporarily high. Plantations obviously could not be run with such labor.

⁷ There is a well-reasoned statement of this fact in Edward C. Kirkland, *A History of American Economic Life*, 181-182 (New York, 1932). See also Lewis Cecil Gray, *History of Agriculture in the Southern United States to 1860*, p. 479-480 (Washington, 1933).

⁸ U. S. Census Office, Seventh Census, 1850, *Statistical View of the United States . . . Being a Compendium of the Seventh Census . . .*, by J. D. B. De Bow, 178. Cf. Ulrich Bonnell Phillips, *American Negro Slavery*, 309-330 (New York, 1918); M. B. Hammond, *The Cotton Industry: An Essay in American Economic History*, 98-110 (New York, 1897); Gray, *History of Agriculture in the Southern United States*, 478-480; Kirkland, *History of American Economic Life*, 182-183; Rosser H. Taylor, *Slaveholding in North Carolina: An Economic View*, 81, 86-91 (Chapel Hill, 1926); Frederick L. Olmsted, *A Journey in the Back Country in the Winter of 1853-4*, 1:73, 131, 141, 167; 2:65-70, 119 (Putnam's Sons edition, New York, 1907).

in selling his product.⁹ In a newer community where marketing facilities were not so well developed, the advantage of the large-scale farmer in buying and selling may have been considerable. In a district where the large planters bought and sold through nonresident merchants or agents and the small farmers were too few and too poor to support competitive buyers and retail merchants adequately, the small farmers would receive considerably less than the planters for what they might sell and pay considerably more for what they might buy.¹⁰

The planter was able to effect a division of labor among his hands that was not possible on a small farm, but the operations and the machinery required in farming in those days were too simple to permit any considerable advantage to be gained from that. In fact the division of labor on a large plantation tended to become fixed and, by its inflexibility, may have impaired rather than promoted efficiency. For example, there would have been a moral difficulty about sending a dignified coachman to the field to plow or "chop." A farm worker of a reasonable degree of competence probably increases his efficiency by making the frequent changes from one sort of common task to another which are necessary on the farm.

The slaveholder had no compunctions about putting female slaves in the field gangs. White women and girls of small-farm families also worked in the fields to a considerable extent. Frederick Law Olmsted reported: "I have, in fact, seen more white native American women at work in the hottest sunshine in a single month, and that near midsummer, in Mississippi and Alabama than in all my life in the Free States, not on account of an emergency, as in harvesting, either, but in the regular cultivation of cotton and of corn, chiefly of cotton."¹¹ However, white farm women and girls certainly did not go into the fields as regularly as slave women and girls. The planter had an advantage here as far as production of field crops was concerned.

The cotton planter usually had his own gin and press while his small-farm neighbor had to pay toll. Whether the planter had a competitive advantage in his ownership depended upon the tolls paid by the farmer. The advantage may have been the other way. Other implements and tools used in cotton production and the implements and tools used in tobacco farming were too simple and cheap to give any advantage to the large-scale farmer in their use; it would be a poor farmer indeed who could not afford a plow and a mule.

These competitive advantages of the plantation over the farm, to the extent that they existed, were at least partially offset by certain disadvantages. The overhead expenses of the large planter were proportionally greater than those of the small farmer. The large planter had to hire an overseer or overseers and often had various other functionaries such as manager, foremen, drivers, and yard boy. The production and curing of tobacco required especially close

⁹ *The Tobacco Kingdom: Plantation, Market, and Factory in Virginia and North Carolina, 1800-1860*, p. 94-117 (Durham, 1938). The facts are given by Robert. The conclusion has been drawn therefrom by the writer.

¹⁰ Olmsted, *Journey in the Back Country*, 2:65-67.

¹¹ *Ibid.*, 56. Cf. Gray, *History of Agriculture in the Southern United States*, 362-363, 471.

supervision because care in handling greatly affected the quality, which was an important factor in determining price. The number of slaves which could be supervised efficiently by one overseer was, therefore, small.¹² The planter himself, the mistress, and the sons and daughters did not ordinarily engage in physical labor, as did members of the small-farm family. The plantation house was often literally overrun with domestic servants.

If large-scale farming had possessed any considerable competitive advantages over small-scale farming in producing cotton and tobacco, there would not have been so many small farms and small plantations devoted to their production. Perhaps one-half the cotton was grown on farms where there were either no slaves at all or fewer than ten or a dozen.¹³ Such farms were too small to possess in any material degree the alleged advantages of large-scale production. Probably an even larger percentage of Southern tobacco was produced on small farms or small plantations. Robert has shown that even in Charlotte County, Virginia, where, in 1850, the average size of the tobacco farms was greater than in any other county of the State, about 53 percent of the crop was produced on plantations employing not more than ten or twelve hands. Robert presents a frequency table showing for seven Virginia counties the number of farms which produced tobacco in 1859 in quantities falling within each of several sets of limits. This table seems to show that, except that farms with two hands were more numerous than those with one—probably because large families were more numerous than small—the numbers of tobacco farms employing the several respective numbers of hands varied in regular fashion inversely with the numbers of hands employed.¹⁴ If the plantation had possessed any appreciable advantages over the smaller farm this inverse variation would not have been so regular.

The laborers employed on the typical small farm, that is the members of the white farm family, were almost certainly as efficient as the slaves on the plantations, if and when the whites chose to exert themselves to a reasonable extent. The qualification is essential, for many whites did not choose to exert themselves very much. In the days of the great slavery debate, Southern controversialists often enthusiastically asserted that their slaves constituted the best trained and most efficient labor force in the world. An occasional modern writer has placed a high estimate on the effectiveness of the slaves.¹⁵ The typical slave was certainly a more effective worker than the free Negro after emancipation,¹⁶ but the great weight of the evidence is that slaves were not as efficient as white workers of good quality. Ulrich B. Phillips seems to have aptly characterized slave

¹² Robert, *Tobacco Kingdom*, 18; Taylor, *Slaveholding in North Carolina*, 89; Gray, *History of Agriculture in the Southern States*, 545.

¹³ Phillips, *American Negro Slavery*, 226.

¹⁴ These references are based on Robert, *Tobacco Kingdom*, 245-247, 249-250.

¹⁵ For example, Gray, *History of Agriculture in the Southern United States*, 361-364, 464-471.

¹⁶ Hammond, *Cotton Industry*, 186; Alfred Holt Stone, *Studies in the American Race Problem*, 125-208 (New York, 1908); U. B. Phillips, "The Economics of Slave Labor in the South," in *The South in the Building of the Nation*, 5:121 (Richmond, 1909); Edward Bryon Reuter, *The American Race Problem: A Study of the Negro*, 227-256 (ed. 2, New York, 1938).

efficiency: "The generality of planters, it would seem, considered it hopeless to make their field hands into thorough workmen or full-fledged men, and contented themselves with very moderate achievement. Tiring of endless correction and unfruitful exhortation, they relied somewhat supinely upon authority with a tone of kindly patronage and a baffled acquiescence in slack service."¹⁷ The fathers of the Constitution expressed the prevailing estimate of their time regarding the relative productiveness of whites and slaves in the famous three-fifths clause.¹⁸ Olmsted, in the 1850s, thought slaves were not nearly so effective as white farm workers in New York State.¹⁹

It has been quite common for writers, in trying to determine the relative efficiency of Negro slave labor and free white labor, to compare the slaves with the white wage labor of the plantation regions, but this method is unsound. The plantation slaves were of average quality. The wage earners were usually the poorest quality of whites, who worked neither very hard nor very regularly.²⁰ Whites of any competence either got land and farmed on their own account or found other employment which was more remunerative than farm labor for hire.

Slave labor was efficient enough, if employed at tasks for which it was adapted, to produce for the masters, taking one year with another, an appropriable surplus over the cost of maintenance. However, the appropriable surplus of the individual slave was normally so small that a master could not enjoy a large income unless he had a large number of slaves.²¹ A farmer with a few slaves worked along with them and made a somewhat better living than his neighbor who had no slaves. A farmer with a larger number of slaves might escape physical toil and enjoy a still higher standard of living. Only the great planters could live in a liberal style. The evidence seems conclusive that planters with fewer than about fifteen slaves did not live well.²²

¹⁷ *Life and Labor in the Old South*, 200 (Boston, 1929).

¹⁸ Max Farrand, ed., *The Records of the Federal Convention of 1787*, 1:580-588; 3:253, 255, 342, 400, 428-430 (ed. 2, New Haven, 1937). C. C. Pinckney, when reporting to the South Carolina House of Representatives put it thus: "As we have found it necessary to give very extensive powers to the federal government both over the persons and estates of the citizens, we thought it right to draw one branch of the legislature immediately from the people, and that both wealth and numbers should be considered in the representation. We were at a loss, for some time, for a rule to ascertain the proportionate wealth of the states. At last we thought that the productive labor of the inhabitants was the best rule for ascertaining their wealth. In conformity to this rule, joined to a spirit of concession, we determined that representatives should be apportioned among the several states, by adding to the whole number of free persons three fifths of the slaves."—p. 253.

¹⁹ *Journey in the Back Country*, 1:64, 83, 90; 2:51, 106, 115, and *A Journey in the Seaboard Slave States*, 185, 203, 717 (New York, 1856). See also Charles H. Wesley, *Negro Labor in the United States, 1850-1925; A Study in American Economic History*, 3-6 (New York, 1927).

²⁰ Taylor, *Slaveholding in North Carolina*, 80; Gray, *History of Agriculture in the Southern United States*, 468; Frederick Law Olmsted, *Journeys and Explorations in the Cotton Kingdom* 1:82 (London, 1861), and *Journey in the Back Country*, 1:255; 2:12-13, 29.

²¹ Gray, *History of Agriculture in the Southern United States*, 474.

²² Olmsted made this point over and over again with much illustrative detail. For examples, see his *Journey in the Seaboard Slave States*, 329, 384-386, 393, 559-563, and *Journey in the Back Country*, 1:174-196, 230-231, 261-266; 2:22, 88, 167-174.

Except, then, in special cases like sugar and rice where much capital other than slaves was required for effective production, the much touted advantage of the plantation with slave labor over the small farm with white labor reduces to about this: The plantation could not produce more in proportion to land and equipment or to the number of hands employed; if large enough it could produce more goods and leisure for the white family. That, in all common sense, was why people acquired slaves and ran plantations. The small farm with reasonably good management and reasonable industry on the part of members of the farm family afforded at least as high a standard of living as the plantation afforded the planter family and the slaves averaged together.

Why, then, if Negro slave labor was not inherently superior to free white labor, and if the plantation possessed little, if any, competitive advantage over the small farm as a unit of agricultural organization, did nonslaveholding whites fail to produce a larger share of the cotton and tobacco? There were several reasons.

First and foremost come the major matters of enterprise and managerial ability. Nowadays, the more competent and industrious farmers in any community generally get the better land and larger acreages. In slavery days in the South, the better farmers got the more desirable lands, larger holdings, and also the slaves to work them and grew more cotton and tobacco. If a small farmer in the cotton or tobacco belt prospered by growing the staple of his region or otherwise, the natural and attractive thing to do was to buy land and slaves as he could. If he continued to thrive, he would eventually become a planter. Thus a small farmer would have been "driven out" by a planter. Of course the man who inherited land and slaves had a better chance of remaining in the planter class than one who had inherited nothing had of entering it. However, many a young man who inherited wealth in slavery days mismanaged his patrimony, lost it in whole or in part, and ended his days in "reduced" circumstances, while many a young man who started with neither land or slaves became a prosperous planter. Thomas J. Wertenbaker has shown that the planter class originated in this latter fashion in colonial times.²³ Olmsted admitted that small farmers were not debarred from becoming planters in the ante bellum period.²⁴ One suspects that most farmers who prospered did so not because they had come by land and slaves but because they attended to business and managed well, while most of those who failed did so because they took life too easy and managed badly. Credit has too often been given to slavery or the farm organization which rightfully belongs to the master.

Secondly, even in the staple-growing districts, the small farmers did not have as strong incentives to grow the staples for market as the planters had. They found it to their advantage to do a more general type of farming with more household manufacturing. In contrast, planters almost of necessity produced for the market. There would have been few planters if it had not been possible

²³ *The First Americans, 1607-1690*, 22-48 (New York, 1929).

²⁴ *Journey in the Back Country*, 1:141, 177; 2:66, 121-124.

to grow market crops profitably on plantations. As a rule, a master will not employ a large labor force in a self-sufficing economy, because, after a certain volume of production has been reached, an additional application of labor can contribute but little to satisfy the wants of the farmer and his family but only to raise the standard of living of the laborers, something in which an employer is only mildly interested.²⁵ In a self-sufficing economy in America a family with a considerable number of slaves would have enjoyed a rude plenty and have been freed from grinding toil but would have had the various cares and worries involved in slaveholding. A family without slaves would have enjoyed the same rude plenty, and, although it must have engaged in hard labor, would not have had the cares and worries of the slaveholding family. A planter in the ante bellum South produced the various necessary and desirable articles for home consumption which could be produced cheaper on the plantation than they could be bought in the market. However, the wants of the slaves were simple, perforce, and easily satisfied, and the demand of the planter's family for such articles was limited. These wants having been satisfied, the planter sought to produce as large a salable surplus as possible in order that he might command for his slaves certain things from outside the community which might be necessary for their continued efficiency and for himself and family the various articles of necessity, comfort, and luxury which could not, or at least not advantageously, be produced on the plantation. The small, nonslaveholding farmer, on the contrary, found it desirable to devote a larger share of his labor to the production of the numerous articles for consumption which could be produced advantageously at home, because, in proportion to numbers, the farmer family consumed larger quantities of such things than did the planter family and the slaves together.

The small farmer of the nineteenth century had a further reason for carrying on more self-sufficing activities than the planter. This was the feeling, already mentioned, that white women and girls, although allowed to work at various household industries which were just as useful and productive as plowing and hoeing, nevertheless, should not be expected to labor in the fields. The planter was under no moral pressure not to send his female slaves into the fields.

The planter had a further reason to concentrate his efforts on the growing of cotton or other staples in the fact that Negro slave labor was relatively more efficient therein than in the production of the various other things commonly produced on Southern farms in slavery days, for examples, fruit, poultry, dairy products, bacon, lard, soap, candles, whiskey, coarse textiles, clothing, and axe and hoe handles. The planter, on this account, sometimes found it to his advantage to grow more cotton or tobacco and buy other things. The small farmer and his family, on the other hand, could produce the varied articles of the general farm more effectively than could the slaves and, therefore, more often found it advantageous to produce them at home instead of buying them at the store.²⁶

²⁵ Gray, *History of Agriculture in the Southern United States*, 475.

²⁶ Cf. Walter L. Fleming, "The Slave-Labor System in the Ante-Bellum South," in *The South in the Building of the Nation*, 5:116. A planter told the English geographer, Robert

The fact that in a given community planters specialized more in producing the great Southern staples while small farmers went in more for general farming does not of itself prove that white labor was less efficient than slave labor in cotton and tobacco, as has so often been assumed; it can just as well prove that white labor was more efficient than slave labor in general farming.

In comparisons of slave-labor plantations with small white-labor farms this simple fact has been too frequently overlooked. Even if the former had competitive advantages over the latter in the production of a crop, say cotton, the small farmers nevertheless would have grown that crop for a living if thereby they could have made a better or easier living than by producing something else. Nowadays small farmers in large areas of the South find it advisable to devote their major efforts to producing cotton, tobacco, or some other crop or crops for market while buying at the store a great variety of articles formerly produced at home; but the fact that they do so now does not prove that they would have done so in the 1830s or 1850s if it had not been for slavery. The abolition of slavery almost certainly made the Negroes of the South less effective as producers of farm products. It is certainly wrong to assume that it was the abolition of slavery only, or even principally, which gave the small farmers their "opportunity." The same general factors have operated to further commercialize agriculture in the South that have operated elsewhere, namely, cheap transportation, which has enabled people to get more for what they sell and to pay less for what they buy; the industrial revolution, which has made it possible to manufacture more and better goods in the mills and factories in towns and cities at incomparably lower costs than they can be made on farms; and the agricultural revolution, particularly the introduction of improved farm machinery, which has encouraged specialization and commercialization by making it too expensive to own machinery applicable to more than one or two crops and too great a handicap in competition not to adopt some of it.²⁷

Since planters had such strong incentives to produce staple crops for market, they must remain where there was access to markets. Small farmers, who did relatively more subsistence farming regardless of location, were not under such pressure to remain in the commercialized farming districts. Therefore, if planter neighbors made attractive offers for the land, the farmers might find it to their advantage to sell and move to a more remote region where land was cheaper but about as well adapted to their type of farming.

The American people during the slavery period were already a race of land speculators. Large numbers moved to the frontier and submitted for the time to frontier living conditions with the hope that the "progress of the country" and especially the development of means of transportation would soon catch up with them and give their lands a value far in excess of the original cost. Masters

Russell, that the reason more planters did not raise hogs and make their own bacon was that the Negroes would steal the little pigs and roast them. *North America, Its Agriculture and Climate*, 265 (Edinburgh, 1857).

²⁷ Cf. Den Hollander, "The Tradition of 'Poor Whites'," 422-425.

with numerous slaves would not or could not be frontiersmen unless the frontier had natural facilities for transportation to market and could almost at once be reduced to cultivation. If they had debts, as most masters did, they were under strong economic compulsion to get cash incomes every year. It follows, therefore, that the proportion of small farmers in the commercialized-farming districts would tend to be reduced by this movement toward the frontier. If a few years later the planter followed the small farmer to the erstwhile frontier and bought up his farm, the farmer was not injured; at least he had done what he had hoped to do and could move on to a new frontier to repeat the process.²⁸

Once a given district became rather thickly settled with masters and slaves, small farmers moved out to get away from the "niggers" and live in a neighborhood where there were more of their own kind. Repelling them from good neighborhoods was probably the principal way in which slavery worked to the economic detriment of nonslaveholding whites. Some of the best lands in the South today are being cultivated by Negroes, who are in general less efficient farmers than whites, because, once the Negroes were there in great numbers, the whites would not move in.²⁹

It is true, of course, that if slavery had never been established in the United States and, therefore, the plantation system had not developed extensively, the lands held by planters would have been held by small farmers who, in many instances no doubt, would have been the same persons who were planters. In that hypothetical case, being located near transportation facilities and finding prices, at least of cotton, somewhat higher than they actually were by reason of the smaller production which would have occurred, small farmers would have grown greater quantities of cotton and tobacco, but considerably less than actually were grown in the South by planters and farmers combined. In this sense, then, slavery may be said to have "driven" nonslaveholding farmers out of staple production and deprived them of an economic opportunity. This is far different from the usual implication, namely, that plantations produced a great quantity of cotton and tobacco very cheaply and thereby depressed prices so greatly that, while planters continued to make money, small white farmers could not make a living by growing the staples. Furthermore, even this concession requires qualification. It may well be that, if slavery had never been established in the South or, although established, had been abolished later, the direct benefits conferred upon small farmers by the absence or removal of competition from plantations and slaves would have been more than offset by the possible injury to the prosperity of the section as a whole.³⁰

The farmer folk of the South who received the most meager rewards were the

²⁸ Olmsted, *Journey in the Seaboard Slave States*, 576-577; Frederick Jackson Turner, *Rise of the New West*, 90-92 (New York and London, 1906); Fleming, "The Slave-Labor System in the Ante-Bellum South," 107, 113-114.

²⁹ Phillips, *American Negro Slavery*, 396.

³⁰ Robert R. Russel, "The General Effects of Slavery upon Southern Economic Progress," *Journal of Southern History*, 4:34-54 (February 1938).

"poor whites." Slavery has so often been blamed for the condition and even the existence of the poor whites that their relation to the institution seems to require special mention.

The poor whites were the ne'er-do-wells of the Southern countryside. They were poor, ignorant, shiftless, and almost utterly lacking in pride and the desire to improve their lot. They lived on the poorer lands interspersed among the plantations and better farms or in the pine barrens, sand hills, or other undesirable locations. In some cases they owned the land they occupied, in others they were merely squatters. They lived from hand to mouth. They farmed in a feeble sort of way, raising a little corn and garden truck and keeping a few hogs. Sometimes they raised a little cotton or tobacco. They hunted and fished a little. Some of them made corn whiskey and sold it to the planters and the slaves. They did odd jobs now and then for neighboring planters or farmers but shunned steady employment. They were often suspected of doing a lot of petty stealing from their more provident neighbors. Their most distinguishing characteristic was their lack of self-respect. Occasionally the terms "low whites" and "mean whites" were used to denote them.³¹

The abolitionists were fond of denominating all the nonslaveholding whites of the Southern countryside as poor whites. This was a libel on the great majority of the small farmers of the section, who were reasonably industrious and self respecting and, in general, made a fairly comfortable living. There were, however, thousands of poor whites. William Gregg, a public-spirited cotton manufacturer of South Carolina, once estimated that one-third of the white population of his State belonged to that class.³² However accurate his estimate may have been, they were found in all the Southern States and the proportion was too high in all.

There seem to have been several causes for the development of the poor-white class. The poor quality of a large proportion of the indentured servants, so numerous in the South in colonial days, may explain it in part. The comparative ease of getting a living of a sort in a country where land, at least poor land, was so cheap, where corn, vegetables, and fruits grew without much care, where game, fish, and edible wild plants abounded, and where winters were short and mild, contributed to easy-going ways. Because of various historical factors, which will readily occur to anyone familiar with American colonial history, there had not been the feeling of community responsibility in the South that there had been in Puritan New England to insist that individuals conform to community standards of industry, thrift, and morality. Perhaps the principal

³¹ Good descriptions are Paul H. Buck, "The Poor Whites of the Ante-Bellum South," *American Historical Review*, 31: 41-54 (October 1925); and Den Hollander, "The Tradition of 'Poor Whites'," 403-431. Frank L. and Harriet C. Owsley almost reason the poor whites away.—"The Economic Basis of Society in the Late Ante-Bellum South," *Journal of Southern History*, 6: 24-45 (February 1940).

³² *DeBow's Review*, August 1851, p. 133. Cf. Gray, *History of Agriculture in the Southern United States*, 487.

cause was hookworm and repeated attacks of malaria, which sapped people's vitality and robbed them of hope and ambition, although it is not entirely clear whether people became poor whites because they had contracted hookworm or got hookworm because they were poor whites. The class of poor whites in all probability would have developed if slavery had never been introduced. There are poor whites now two generations after emancipation, and in spite of a greater density of population, better health services, more varied industry, public schools, and the many inducements to exertion offered by modern civilization. Similar classes, under different names, although perhaps not so great in numbers, are to be found in other parts of the country; and, for that matter, the same general type may be found in varying proportions in every country on the globe.

However, in at least two ways slavery seems to have contributed to the formation of the poor-white class of the South. Contrary to the usual rule, many of the poorer whites might have been better off as farm laborers under supervision than as independent farmers, but slavery retarded the development of a wage-earning class in the plantation districts. Originally planters had resorted to the use of bound servants because competent free laborers were scarce in a country where it was so easy for people of any competence at all to become independent farmers on land of their own. Once slavery was firmly established in a district, it in turn discouraged the development of a free-labor class.³³ Planters preferred slaves to the poorer sort of whites. They also hesitated to attempt to use wage laborers instead of slaves, because, until a large wage-earning class should have developed, they could feel no assurance of being able to fill the vacancies that were certain to occur. Whites would not work in field gangs along with slaves under overseers. If it had not been for slavery, people with managerial ability might have made greater efforts to get the poor whites to work for wages or to rent the better lands and might have succeeded, as they did, in a measure, other things contributing, after the War for Southern Independence. By creating the black belts in ways described in preceding paragraphs, slavery created a social condition conducive to the development of such a class of poor whites. The more enterprising and intelligent of the small farmers either got out of the staple belts or graduated into the planter class leaving the less enterprising and less intelligent behind on poor lands which the planters could not use. Planters, having their own social life, took little interest in and felt little responsibility for their poor-white neighbors, except, perhaps, at election time. If the small-farmer population had remained larger, there might have been more churches, more schools, and a more wholesome community life in general, which would have given some stimulus, encouragement, and aid to the weaker and less fortunate members of society.³⁴

³³ This point is developed more fully in Robert R. Russel, "The Economic History of Negro Slavery in the United States," 317-319.

³⁴ Fleming, "The Slave-Labor System in the Ante-Bellum South," 113; Phillips, *American Negro Slavery*, 396; Olmsted, *Journey in the Back Country*, 2:61-70.

Slavery was certainly no more detrimental to nonslaveholding whites engaged in nonagricultural occupations than it was to small farmers. There seems to have been no dearth of employment in the Southern countryside for such white artisans as there were. It is true that planters often had slaves trained in various skilled crafts, and they often became excellent workmen. They were, indeed, frequently hired out by their masters to neighbors who needed their services.³⁵ In general, however, the Negro artisans were not as competent as the white, and the latter were preferred. It was the scarcity of the white artisans which caused planters to resort to training slaves in the trades. This scarcity, in turn, was due to the strong inducement there was all through this period for people of good quality to get land and live on it.

In the cities and towns of the slaveholding States, white wage earners had to compete with free Negroes and with Negro slaves, who were either employed in their masters' businesses, hired out by their masters to other employers, or allowed to hire their own time. Such free Negroes and slaves worked at practically every sort of task.³⁶ They had a monopoly of domestic service. Either because of its character, or because Negroes had so long predominated in it, or both, the whites had come to look upon such service as menial and degrading, and employers preferred the Negroes because they were more obsequious. In other occupations the whites and Negroes, sometimes of both sexes, worked side by side, usually, but not always, with some distinction in tasks in favor of the whites. For example, in the Tredegar Iron Works at Richmond, Virginia, each white master workman was given a Negro "assistant."³⁷

The white workers frequently resented the presence of the blacks, either because of race prejudice, or dislike of their competition, or both, and sought to have them excluded from the pursuits concerned. There was, for example, a strike of the white workers in the Tredegar works having this object, but it was unsuccessful, as were all other efforts to exclude Negroes. Employers could not afford to allow such a principle to be established, as white workers were not sufficiently numerous and permanent in most localities to permit reliance on them alone. The use of slaves, if they belonged to the owners of the business, gave the employers assurance that operations would not be interrupted or wages forced to too high levels by strikes and withdrawals; and, even if the

³⁵ Wesley, *Negro Labor in the United States*, 6-7; Stone, *Studies in the American Race Problem*, 149-208; Reuter, *American Race Problem*, 227-256; Gray, *History of Agriculture in the Southern United States*, 500, 566; Ulrich B. Phillips, ed., *Plantation and Frontier (A Documentary History of American Industrial Society, v. 1-2)*, 1:172, 253, 334 (Cleveland, 1910).

³⁶ Phillips, *American Negro Slavery*, 402-424; Wesley, *Negro Labor in the United States*, 1-28; Gray, *History of Agriculture in the Southern United States*, 467, 566; Kathleen Bruce, *Virginia Iron Manufacture in the Slave Era*, ch. 6 (New York and London, 1931); A. H. Stone, "Free Contract Labor in the Ante-Bellum South," in *The South in the Building of the Nation*, 5:142.

³⁷ For reasons not entirely clear, the hands in Virginia tobacco factories were nearly all Negroes,—Bruce, *Virginia Iron Manufacture*, 238-240; Robert, *The Tobacco Kingdom*, 197-208.

slaves were hired from others, the assurance was nearly as great, for still there could be no strikes, and labor contracts were usually made for a year at a time.³⁸

In the skilled trades the white workingmen were more efficient and were, therefore, preferred. Negro competition was not keen.³⁹ In unskilled and semiskilled labor the superiority of white workers to slaves was not so great, if, indeed any existed, but in general white workers had no difficulty in getting jobs, excepting, of course, that they sought none in domestic service. As the middle period wore on and the demand for labor in the cotton and sugar belts grew, there was a tendency for slave labor to be drawn from the towns to the farms, where white labor was not available, leaving places in towns open to the whites. This tendency was reinforced by the increasing difficulty of handling slaves amid urban surroundings and by the better adaptability, generally speaking, of slaves to agriculture than to urban occupations.

Nonslaveowning employers of labor in the cities had no particular disadvantage in competition with slaveowning employers as they would have had in the country, for they were able to hire either whites, slaves, free Negroes, or all three. In fact, railroad companies, manufacturing concerns, etc. usually found it necessary or desirable to start with hired labor, free or slave, because with hired labor it was not necessary to raise so much capital at the outset. Employers sometimes preferred to hire their hands also, because this permitted a selection more in accord with existing needs and enabled the employers to expand or contract their labor forces and more readily adjust production to the state of business.⁴⁰

In slavery days the cities and towns of the South, being neither numerous nor large, derived their support principally from plantation districts, where there were many slaves, rather than from small-farming regions, where there were few. It was chiefly the planters who bought, sold, borrowed, travelled, and sent their children to academies and colleges. It seems quite certain, therefore, that if it had not been for plantations and slavery, the cities and towns of the South would have been even fewer and smaller, resulting in even less opportunity for nonslaveholding whites.

In the days of the great slavery debate, the abolitionists, when pressed closely to show how slavery injured the nonslaveholding whites, always replied that it did so by inspiring a contempt for manual labor among all whites who came in contact with it. This answer still finds favor in the textbooks. The writer has examined the contention at some length in another place and found that there was a grain of truth in it, but little more than a grain.⁴¹

³⁸ Wesley, *Negro Labor in the United States*, 69-86; Phillips, *American Negro Slavery*, 413; Robert Royal Russel, *Economic Aspects of Southern Sectionalism, 1840-1861*, p. 53, 218-220 (Urbana, 1924); Olmsted, *Journey in the Back Country*, 1:199-200; 2:57; Bruce, *Virginia Iron Manufacture*, 234-237, 243-244.

³⁹ Phillips, *American Negro Slavery*, 403, table.

⁴⁰ Robert, *Tobacco Kingdom*, 199; Gray, *History of Agriculture in the Southern United States*, 566; Russel, *Economic Aspects of Southern Sectionalism*, 210-211, 219.

⁴¹ Robert R. Russel, "The General Effects of Slavery upon Southern Economic Progress," 37-40. See also Phillips, *American Negro Slavery*, 397-398.

In conclusion, Negro slavery was in some respects to the economic advantage of many of the nonslaveholding whites of the slaveholding regions; in others it was to their disadvantage. To many nonslaveholding whites it was a matter of economic indifference. It is impossible to strike a balance in which confidence can be placed. It is certain that the net injury, if there was any, has commonly been grossly exaggerated. The fact that nonslaveholding whites did not seek to destroy the institution as injurious to their economic interests may only show that their common sense operating upon a familiar matter was sounder than the economics of abolitionists theorizing at a distance or of some modern historians theorizing after a long lapse of time.

NEWS NOTES AND COMMENTS

NOTE TO MEMBERS ON THE FEDERAL TAX STATUS OF PAYMENTS TO THE AGRICULTURAL HISTORY SOCIETY

Higher tax rates and fewer exemptions are to be expected. Our members—few of whom appear to be in the upper income brackets—may wish to avoid even a small tax if in so doing they can feel assured that they are not evading it.

This problem has become of sufficient importance to justify having specific rulings in regard thereto. Your secretary, therefore, requested rulings from the Commissioner of Internal Revenue on several points relating to the Federal tax status of the Society and its members. The results of subsequent conversations and correspondence may be summarized as follows:

1. Dues paid by teachers and research workers to the Agricultural History Society for annual or life membership and the *Agricultural History* journal, for which they have not been reimbursed, are deductible (in the year paid) from gross income in determining Federal income tax.

2. Contributions made to the Agricultural History Society are deductible by the donors in arriving at their taxable Federal net income in the manner and to the extent provided by section 23(o) and (q) of the Internal Revenue Code.

3. Gifts of property to the Agricultural History Society are deductible in computing net gifts for gift tax purposes in the manner and to the extent provided in section 1004(a) (2) (B) and 1004(b) (2) and (3) of said Code.

4. Bequests, legacies, devises, and transfers to or for the use of the Agricultural History Society are deductible in arriving at the value of the net estate of a decedent for estate tax purposes in the manner and to the extent provided by sections 812(d) and 861(a) (3) of said Code.

5. The Agricultural History Society is exempt from Federal income taxes under the provisions of section 101(6) of said Code and certain other taxes under other provisions.

When you rewrite your will or look about for a worthy beneficiary of gifts whereby you can "save" on taxes—please remember the Agricultural History Society.—Arthur G. Peterson, Secretary-Treasurer.

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THE HOME LIFE OF A PLANTATION STATESMAN, JOHN SHARP WILLIAMS

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Nestled in the banks of the serpentine Big Black River in Yazoo County, Mississippi, lies a plot of some 3,000 acres of virgin, alluvial soil which was settled by John McNitt Sharp who migrated there with his family from Tennessee in the late 1830s. Here the Sharp family established itself on what came to be called the Cedar Grove plantation, cleared away the forest, plowed, and began planting cotton. In the early 1840s they built the house which still stands practically unchanged. John Sharp was his own architect and nearly everything that went into the structure was produced on the plantation by slave labor. Under the careful supervision of the master, the slaves constructed a substantial home. On the main floor of the building two great hallways, each 10 feet wide, cross each other at right angles, leaving a room 20 feet square in each corner. As was the custom of the time, the kitchen and dining room were built of brick some distance from the rest of the house. This space was closed in later years by the addition of a bedroom on either side.¹

In 1853, Captain Sharp's daughter, Anne Louise, left Cedar Grove to become the wife of a promising young Memphis lawyer, Christopher Harris Williams.² Soon after the birth of her second son, some six years later, Anne died.³ Her first child, John Sharp Williams, was destined to become one of the South's most prominent leaders. The second son was named Christopher Harris for his father. These two boys were completely orphaned when Colonel Williams was killed in action at the Battle of Shiloh on April 6, 1862.⁴ Captain Sharp heard of the fate of his son-in-law and immediately hastened to Memphis. He took the Colonel's body, the two orphans, and the Colonel's mother, who had been caring for the boys, to Cedar Grove. Later, John Sharp Williams, in commenting on the kindness of his grandfather, said, "it was the right and generous thing to do and he did it and that was all."⁵ The tombstone of his father in the family burial plot near the plantation house bears the inscription, "He died on the field of honor at Shiloh." A few months after Shiloh, another grave was

¹ Harris Dickson, *An Old Fashioned Senator, a Story Biography of John Sharp Williams*, 12, 184 (New York, 1925).

² John S. Williams to Lucile W. Banks, Nov. 6, 1928, in possession of Miss Banks, Memphis, Tennessee.

³ The Williams Family Bible at Cedar Grove Plantation supplies the genealogy of the Williams family from the Revolutionary War period.

⁴ The Memphis *Daily Appeal*, Apr. 25, 1862, carried a list of the casualties at Shiloh.

⁵ Williams to Lucile Banks, Nov. 6, 1928, in the possession of Miss Banks.

made nearby for Captain Sharp who died from exposure caused by the invading armies. His death left Cedar Grove with its thousands of fertile acres and one hundred and fifty slaves in the control of women and small children.

Here on the plantation of his maternal ancestors, John Sharp Williams and his young brother "Kit" spent their youth. Grandmother Sharp was an efficient and kindly mistress. That she dealt justly with her slaves was recalled many years later by her grandson: "My early boyhood was spent on a plantation of 150 slaves. I was eleven years of age when the war closed. I remember only three plantation punishments: One a man whipped for stealing, one a woman whipped for general and dangerous prostitution, and the other was that of a man, who was kept on bread and water for two weeks, because he had in a mutual fray killed his brother. The last finally met with the penalty—unprecedented on that place—which he dreaded most, and tearfully attempted to escape—sale."⁶ The slaves were grateful for the kindly treatment and almost all of them remained loyal to their mistress throughout the war. In 1863, Federal troops were plentiful in central Mississippi, and foraging expeditions were made to all of the plantations. Cedar Grove was no exception.⁷ The Negroes were encouraged to come within the Federal lines, but the slaves chose to remain at their work.

A short time before his death, Grandfather Sharp called his little grandson to him and told him that he was big enough to have a boy of his own and asked him to choose the one he wanted as his personal servant. Williams promptly chose Allen and the two became inseparable companions and playmates. Many of their games were original, as for example the time they engaged in a butting match in imitation of two Spanish Merino rams they had seen on the lawn.⁸ However, in a few of his inclinations Williams was unlike the average plantation boy of his day. Never would he go hunting! He did not squander as much as one hour at this sport during his entire life because he could derive no pleasure from killing harmless animals.⁹ Later, he expressed his opinion of fishing by saying: "I would lose what mind I've got if I had to sit and watch for a silly fish half the day."¹⁰ Before many years had passed, Allen was free, although he had no wish to be. He asked his young master to let him stay as his boy, but Williams explained that he was free and that it was against the law, an explanation which did not fully convince Allen.

Early in his youth, Williams became interested in books. He was fortunate in

⁶ John Sharp Williams, *Thomas Jefferson, His Permanent Influence on American Institutions*, 79 (New York, 1913).

⁷ Williams to Mrs. Helen H. Gardner-Day, Aug. 12, 1915, Williams Papers, Manuscript Division, Library of Congress. Although this collection includes more than 20,000 of the Williams Papers, there is still a small group at Cedar Grove, his plantation home. Unless otherwise stated, the term "Williams Papers" signifies the collection in the Library of Congress.

⁸ Dickson, *Old Fashioned Senator*, 17-22.

⁹ Interview with Williams, Dec. 3, 1929.

¹⁰ Ruth Hall, "Habits of John Sharp Williams," *Jackson Daily Clarion Ledger*, June 12, 1906.

having access to the works of such authors as Shakespeare, Herodotus, Plutarch, Gibbon, Hume, Robertson, Swift, Defoe, Fielding, Smollett, Milton, Pope, Burns, and Scott in the library of the Sharp home.¹¹ The future statesman spent many hours eagerly reading and never outgrew his ambition to have more time in which to read books. His formal education began in private schools in Yazoo City during the war. Just after the war closed he was sent to Memphis, accompanied by his old nurse Luly, and entered a private school there. He later recalled that on this momentous trip he was "dressed in homemade clothes, made upon the plantation during the war out of wool off of our own sheep and cotton grown in our own field, spun and woven on our hand spindles and looms. . . ."¹² The search for education begun on this trip was to require many years and wide travel. He attended the Kentucky Military Institute, the University of the South at Sewanee, Tennessee, the University of Virginia, and continued his education with two years abroad at the University of Heidelberg and the College of France at Dijon. On returning from Europe, he entered the law school at the University of Virginia and received a professional degree after one year.

In October 1877, Williams returned to Cedar Grove to become its manager, bringing with him his recent bride, the former Miss Betty Dial Webb of Livingston, Alabama.¹³ At the time when this young couple was embarking on their life together, the South was in the throes of Reconstruction. To describe the hardships that were common throughout the region would be to describe those that prevailed at Cedar Grove. The place had become heavily encumbered with debt but taking into consideration the conditions on other plantations throughout the South, one hundred thousand dollars indebtedness was not evidence that it had been managed corruptly. The manager had not been able to adapt himself to new conditions. He supplied his tenants with everything they needed. Only cotton was planted in the hope that the crop would sell for enough to repay all the borrowed money. Somehow the system did not work successfully, and Cedar Grove plunged deeper into debt. The overseer had been unsparing in his allowances to John Sharp Williams while the latter was obtaining his education and deserves much credit for making it easy for the future statesman to secure such wide training and thus equip himself for his future public career.

The years that followed the return to Cedar Grove were dominated by work and thrift. Williams had to borrow money "to put the property in condition, to make money, and to make the place pay itself out of debt." During this time, as he afterwards admitted, he lived "like a fifty dollar drygoods clerk."¹⁴

There is much difference between studying law and managing a large planta-

¹¹ "Savoyard," "John Sharp Williams," *Jackson Daily News*, Sept. 3, 1907.

¹² *Congressional Record*, 60 Congress, 1 session (1908), 4356.

¹³ Mrs. Anita Stewart Armstrong to the author, Oct. 5, 1938, in possession of author. Also Mrs. John Sharp Williams to Lucile Banks, Sept. 27, 1924, in possession of Miss Banks.

¹⁴ Williams to Joe M. Chapple, Nov. 6, 1916, Williams Papers.

tion, and Williams soon discovered that he had no experience in many of the kinds of work required. For instance, when the new director set out personally to oversee the roofing of a building, he had the laborers begin nailing the shingles at the peak of the roof and work down. After part of the house had been covered, a rain gave abundant evidence of the error which the scholarly plantation manager had made. The rest of the house was roofed correctly, beginning at the bottom and working toward the peak, while the first part had to be reshingled.¹⁵

Labor on the plantation was furnished in large measure by the ex-slaves and their descendants. Of the one hundred and fifty slaves only three left the plantation when they were freed. At that time, the regular wage paid to laborers in that region, if Williams' memory was correct, was \$12.50 per month and supplies. In order to secure the best work possible from his hands, Williams offered \$15.00 whereupon his neighbors protested vigorously. However, the planter maintained that he wanted culled labor, so he said to his workers, "If you do not do to suit me, you have got to leave my employ." Thus he was able to keep tenants upon whom he could rely. He secured the "best colored labor upon the creek, and the colored labor stood by me all the time, until I made an ass of myself by seeking and accepting public office."¹⁶ As soon as the plantation was back on its feet financially, Williams secured an overseer to do the actual managing of the place while he opened a law office in nearby Yazoo City.¹⁷ This arrangement lasted until lawyer Williams began his political career.

In public life Williams spoke frequently of his love for the land and the farmer. His belief that "agriculture in its happy condition, is the noblest, purest, healthiest, and highest pursuit of man,"¹⁸ may not have been very apropos to a country that was turning to industry and big business for the future. In this respect Williams remained a pupil of the old school. His dealing with nature in the cultivation of plants and in the breeding of animals where honesty and sincerity were justly rewarded, doubtless had its influence. In the "back to normalcy" years immediately following the World War, it became evident that the American farmer was receiving a greatly reduced percentage of the national income. Republicans were tinkering with the tariff and seeking to raise the farmers' income through an increased tariff wall. Speaking as the only man in the United States Senate whose post office address was out in the country on a star route and as a man whose private income, with the exception of a few dollars, came from the farm, Williams stated that the tariff was the means through which the manufacturer had robbed the farmer all through the years.¹⁹

While in the House of Representatives, 1893-1909, and in the Senate, 1911-1923, Williams considered Cedar Grove his home and hurried there from Washington when his official duties permitted. He was always "yearning to see the

¹⁵ Interview with Christopher Harris Williams, Jr., Oct. 20, 1937.

¹⁶ *Congressional Record*, 65 Congress, 2 session (1918), 8063.

¹⁷ Interview with Williams, Sept. 13, 1928.

¹⁸ *Congressional Record*, 57 Congress, 2 session (1903), 1540.

¹⁹ *Ibid.*, 66 Congress, 3 session (1921), 2541-2543.

folks at home."²⁰ Often during these thirty years all efforts to drag this plantation lover away from his farm, once he was there, proved vain.²¹ In addition to his affection for his ancestral home and acres, there was the formidable attraction of the pile of books which he was determined to read. Daily he ventured out of the house "to casually view the cows, the horses, the children, the pigs and other embellishments of the plantation,"²² but most of the time he could be found in his library, which he loved. In time his library contained approximately four thousand volumes, all of which he had read. In reading he invariably inscribed his thoughts and reactions on the margins of the books.²³

Once when asked what constituted an ideal home, the Senator replied that there were only three real essentials, "a shelter to keep the rain out, fuel enough to keep warm in winter, and a good wife and well-behaved children."²⁴ Certainly Cedar Grove more than fulfilled these conditions for him. His letters are full of delightful pictures of the happy life there. If he wrote in spring, he described the beauty of the rose garden, the myrtle trees, the winter honeysuckle in bloom, the crocuses peeping out of the ground, the spacious lawns where "a fellow could go out and swing in the hammock and read a book from about ten o'clock in the morning until about five o'clock in the afternoon."²⁵ In autumn, he pictured the charm of harvest fields, the crackling of wood fires in old-fashioned fireplaces, the sheep and cattle seeking shelter behind the windbreaks, or the Scotch collie puppies getting "all in a bundle" at night.²⁶ In winter, he wrote that "the ponds have been frozen over and I am feeding the birds in this spell of snow and red-birds, woodpeckers, wrens, black birds, larks just cover the east walk where I have spread hulled oats for them."²⁷

Even in the prime of his public life, this planter statesman much preferred to be at his grandfather's place among the cedars in which the birds of many species sang. Here he was no longer bothered with the pavements of Washington and the constant treading to and fro upon them; here he ceased politics and statesmanship and proclaimed philosophy. The nearer he approached God and nature and the farther away he got from man the more of an individualist he became. In this environment his dominating thought was that everything worthwhile in life was in the relationship between man, God, and nature.²⁸ Any

²⁰ Williams to Sam D. Jones, Dec. 3, 1913, Williams Papers.

²¹ See the Williams Papers for many rejections of invitations to make speeches and to visit with friends.

²² Jackson *Daily News*, Oct. 18, 1922.

²³ The author has spent numerous hours in the Senator's library, borrowed dozens of books from his collection, and thus writes from his own knowledge.

²⁴ Williams to H. K. Bryson, Jan. 19, 1916, Williams Papers.

²⁵ Williams to Lucile Banks, May 6, 1919, in possession of Miss Banks; Williams to Mrs. Estelle M. B. Thompson, Feb. 22, 1920, Williams Papers.

²⁶ Williams to Lucile Banks, Nov. 6, 1917, in possession of Miss Banks; Williams to Mrs. Upton Sinclair, Nov. 5, 1917, Williams Papers.

²⁷ Williams to Mrs. Christopher H. Williams, Jr., Jan. 24, 1930, in possession of Mrs. Christopher H. Williams, Jr., Washington, D. C.

²⁸ Williams to Mrs. Upton Sinclair, May 8, 1915, Williams Papers.

concern with other men, so it seemed, was only to prevent them from trespassing on his rights while he kept the solemn duty not to trespass upon their rights.

Williams frequently joked about having the "Southerner's complaint, too few dollars—which is always sad—and too many children for the dollars."²⁹ Always he added that of course he did not consider the too many children a misfortune, but that the two situations did not go well together. The bond between him and his seven children was never loosened. He was always concerned for their welfare and interested in their plans; yet he tried to encourage them to live their own lives, saying, "I have tried to raise my children to be free."³⁰ During his public career, Williams frequently drew illustrations for his speeches from incidents that had occurred on the plantation when his children were young. One of his favorites was the anecdote about one of the Negroes who told his daughter Julia that she surely resembled her father. Julia did not look particularly pleased and the darkey hastened to add: "But, Miss Julia, you sho' do out favuh him!"³¹

In later years, there were grandchildren at Cedar Grove to delight the Senator. Pauline, the daughter of John Sharp Williams, Jr., was "a sight to see" as she romped with eight Scotch puppies who, according to her grandfather, were as fat and healthy looking as she.³² On one occasion when she was preparing for a combined Hallowe'en and birthday party, she led her grandfather to a dark closet in the hall of the plantation home to show him the jack-o'-lantern. Later she told her grandmother, "I know Grandpa was scared, 'cause he dropped my hand."³³ Once Williams wrote that he was enjoying "the happiness of second childhood, building a log cabin play house for the children—an old fashioned [log cabin], two rooms with a passage between and quite rustic porch, with more than rustic banisters and porch seats."³⁴

Cedar Grove was certainly no exception to the rule of plantation hospitality. Friends were always welcomed with open arms. As the owner once wrote: "We will welcome you, dog, gun, and any friend."³⁵ If the host were notified in advance that a visit was forthcoming, extensive rural preparations were made. In the fall or winter a pig would be killed in order that the guest might enjoy plenty of backbone and spareribs.³⁶ There would probably be some "fresh greens from the garden to eat with the jowl."³⁷ If in the late spring or summer, the meat would consist of chicken, lamb, or beef. There was always something to kill that "gets along on either two or four legs."³⁸ Water and sugar and other

²⁹ Williams to Mrs. Daisy M. Stevens, Oct. 4, 1916, Williams Papers.

³⁰ Williams to W. G. Brantley, Dec. 7, 1916, Williams Papers.

³¹ Williams to D. C. Colecock, Dec. 1, 1916, Williams Papers.

³² Williams to Lucile Banks, Nov. 6, 1917, in possession of Miss Banks.

³³ Williams to Miss Mary Heath, Oct. 22, 1920, Williams Papers.

³⁴ Williams to William Horlick, Jr., Nov. 9, 1915, Williams Papers.

³⁵ Williams to Clay Sharkey, Nov. 16, 1914, Williams Papers.

³⁶ Williams to Charles Humphries, Nov. 21, 1917, Williams Papers.

³⁷ Williams to Harris Dickson, Apr. 2, 1920, Williams Papers.

³⁸ Williams to Mrs. Rosa W. Wells, Nov. 14, 1916, Williams Papers.

"proper ingredients" were usually on hand to be partaken of when the guest desired. The Senator sometimes made his colleagues who were still on the job in Washington quite miserable by inviting them to get away from everything and be "plum quiet" for a week at Cedar Grove. Besides a variety of meats, vegetables, and fruits for the menu he promised "books, with all the sleep desired."³⁹ Through the years, and especially after the Senator's retirement, many of his famous friends found their way to Cedar Grove.

Just before Williams left Washington to begin his voluntary retirement in 1923 he charmed his friends with a description of the life he would lead in seclusion.

There's a rooster Will keeps in the myrtle tree back of the house. He is better than any alarm clock and much more certain. Each morning he will call me from sleep.

I shall arise early, have my bath and shave and cut my own flowers while the dew is on them. A little breakfast, and then to my library and read books.

If I am fortunate as my grandfather was and happen to have those things that go to compose a mint julep, I shall make one. Then to dinner—the kind that costs you \$2.50 up here. After that, a little nap, and then back to my books and letter writing.

After that is done it will be about time for supper—not dinner mind you. Just about dusk I shall have a concert by my own band—owned by me if by anybody else but God Almighty. They are the mockingbirds that nest in my trees. When the time comes to go, after this happy old age, I will be carried by my neighbors out of my own house and planted in my own graveyard at the feet of my father and mother and grandfather and grandmother.⁴⁰

Thus it came to pass. John Sharp Williams returned to Cedar Grove in March 1923, and from that time until the day of his death, his life was just as he had dreamed it. He was free to live as he chose, and did not force himself to do many of the things he might have done. When a young man applied for a position as his secretary after he retired, Williams replied with characteristic quaintness and humor: "After I retire to private life, I would have no more need of a secretary than a nigger with a watermelon would have with a corkscrew."⁴¹

The retired statesman did not pretend to take over the active management of the plantation. That task had been given to John Sharp, Jr., ten years before. During those years many letters about the work at Cedar Grove passed between the father and son. At first, the young man was discouraged and felt that the odds were almost too great. Remembering his own hard years on the plantation back in the 1870s, the father assured his son that "Of course, you mustn't give up the idea of being a good farmer."⁴² On another occasion, he confided to his son the hope that "the old home will be in the family for many generations."⁴³ In return, the son expressed his "gratitude for the trust" placed in

³⁹ Williams to Josephus Daniels, June 29, 1915, Williams Papers.

⁴⁰ Yazoo County News, Mar. 12, 1923.

⁴¹ Williams to Joseph W. Ellis, Oct. 14, 1921, Williams Papers.

⁴² Williams to John S. Williams, Jr., Jan. 14, 1913, in possession of John S. Williams, Jr., Cedar Grove Plantation.

⁴³ Williams to John S. Williams, Jr., July 26, 1916, Williams Papers.

him and assured his father that he would some day have the "satisfaction of knowing that I am succeeding on the old place."⁴⁴

The years flowed swiftly at Cedar Grove and brought to the Senator all that he had hoped of peace and happiness. His life was just as he had planned it during the last months in Washington when he had been so impatient to get away from it all—away to his ancestral home, his children, his books, and his leisure. On October 2, 1927, Williams and his wife celebrated their golden wedding anniversary with "a house full of company who brought a perfect glory of flowers and other modest but welcome little things to show their love and loyalty."⁴⁵ Fifty years earlier they had started life together at Cedar Grove—a young couple without a great deal more than love and debts. During those years, they had reached the heights of fame and public acclaim together; now they were back at their plantation home, happy with the love of children, grandchildren, and a host of friends. For more than fifty years, John Sharp and Betty Williams were companions and sweethearts. When the Senator was retiring, his friends thought he would soon become bored with the quiet plantation life. Among the answers he gave was the fact that he and Mrs. Williams were not too old to love each other. He called her affectionately his "bedroom philosopher" or his "little Puritan."⁴⁶ To the end of his life she was beside him.

On September 27, 1932, Senator Williams passed away. His death scene had the quiet and peace he had hoped it would have after a happy old age among the things dear to him. The people of Mississippi wanted to pay special honor to the dead statesman, and Governor Sennett Conner requested that he be granted the privilege of sending a military escort to Cedar Grove to bring the body to Jackson where it would lie in state. The family was grateful for the suggestion but was true to one of the Senator's last requests, that he be given a simple burial at the plantation. In accordance with his wish, on the morning of September 29, the flower-covered casket was borne out of the house past his empty chair beneath the drooping branches of the cedar trees and across the lawn to rest in the family burial plot. Thousands of people joined in the tribute—people from all walks of life—from the Governor of the State to the humble Negroes who had "libb'd on de plantation since Marse John was a chile."⁴⁷

⁴⁴ John S. Williams, Jr. to Williams, Feb. 28, 1914, in possession of John S. Williams, Jr.; and John S. Williams, Jr., to Williams, July 24, 1916, Williams Papers.

⁴⁵ Williams to Clay Sharkey, Oct. 2, 1927, in possession of Pat Sharkey, Glen Allan, Miss.; see also special article by Harris Dickson in *New York Times*, Oct. 3, 1927, p. 1.

⁴⁶ Williams to Lilly T. Caldwell, Feb. 1, 1923, Williams to J. W. McGroth, Feb. 28, 1921, and Williams to Robert W. Banks, Dec. 31, 1916, Williams Papers.

⁴⁷ *New Orleans Times-Picayune*, Sept. 29, 1932. *Memphis Commercial Appeal*, Sept. 28, 29, 1932. *Jackson Daily News*, Sept. 28, 29, 30, 1932; *New York Times*, Sept. 29, Oct. 2, 1932.

THE DECLINE OF THE WISCONSIN SOCIETY OF EQUITY

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The American Society of Equity was founded in Indianapolis, Indiana, on December 24, 1902. In the beginning it obtained its greatest membership in the tobacco areas of Kentucky and Tennessee and in the spring wheat area of the agricultural Northwest.¹ Early in 1903, it expanded into Wisconsin, where it gained a membership of 10,000 within four years, largely in the old wheat counties of the Mississippi Valley.² The Equity Society appealed to the same type of discontented farmer that voted for the La Follette Progressives, and many of its leaders were active in the progressive movement. Under Equity leadership many cooperatives were founded, mostly genuine, but some fake. The enthusiasm once shown for business associations, however, tended to be superseded by an unprecedented demand for political action. Three factors mainly accounted for this situation: First, America's entrance into the World War; secondly, the success of the Nonpartisan League in the North Dakota elections; and thirdly, the ascendancy of the politically ambitious James N. Tittmore.

Temporary and illusory were the hopes of the Equity farmers that the outbreak of European hostilities would bring all forms of agricultural distress to an end. With the entrance of America into the war, they found themselves confronted by such new problems as war profiteering, a shortage of farm laborers, mounting costs of manufactured goods, and ever-recurring charges of disloyalty.³ The manipulations of war profiteers particularly aroused their ire and brought forth repeated demands for protection from "market riggers" and "gamblers." They demanded, too, that the fixing of prices and the expropriation of "swollen fortunes," so apt to prove a menace to democracy, be undertaken by the Government. In an attempt to eliminate unnecessary war profits, the Equity branch at East Troy, Wisconsin took matters into its own hands and sold produce directly to the wives of soldiers.⁴

Almost equally significant was the shortage of farm laborers, due to war en-

¹ See Theodore Saloutos, "The American Society of Equity in Kentucky: A Recent Attempt in Agrarian Reform," *Journal of Southern History*, 5:347-363 (August 1939); Herman Steen, *Coöperative Marketing, The Golden Rule in Agriculture*, 212 (New York, 1923); Chesla C. Sherlock, *The Modern Farm Cooperative Movement*, 14-15 (Des Moines, 1922).

² For the organization in Wisconsin, see Theodore Saloutos, "The Wisconsin Society of Equity," *Agricultural History*, 14:78-95 (April 1940); *Equity News*, 8(15):232 (Dec. 1, 1915).

³ *Equity News*, 10(12):181 (Oct. 15, 1917); (15):631 (Dec. 1, 1917).

⁴ *Ibid.*, 10(10):157 (Sept. 15, 1917).

listments, heavy wartime needs, and the lure of high wages in cities. At the State conference of the Wisconsin Council of Defense at Madison, in February 1917, the following suggestions were made in the hope of securing additional farm help: utilization of the services of 18,000 Wisconsin high school boys; organization of the unemployed and part-time workers in cities and villages; release of able-bodied men working as clerks; formulation of plans for farmers to aid one another and, if necessary, to obtain men from army cantonments during rush seasons; postponement of work on public improvements; and attempting, through unfavorable newspaper publicity, to force "loafers" in pool rooms and saloons to take positions. Here again a demand for governmental assistance set in. Since the Government had appealed to the farmer to furnish the necessary "bread bullets" to win the war, the Equity pleaded that the Government not only guarantee the farmer profitable prices, but see to it that an industrial army be raised "to assist the farmer in the planting, care, cultivation and harvesting of their crops."⁵

The enemies of the Equity repeatedly accused the order and the farmers who belonged to it of disloyalty.⁶ Reports of Liberty Bond salesmen, who had encountered identical responses of "Kein Geld"—"No Money"—from farmers who had failed to subscribe their assessed quotas, were utilized in good fashion. Replying that a "more loyal and devoted people" than the farmers were hard to find, the *Equity News*, as the mouthpiece of the Wisconsin Society, blamed the "large and powerful interests" for these "misrepresentations," and reminded its readers that these same elements had been guilty of "abhorrent and immoral practices" against manufacturers and others who had dealt with farmers' cooperatives.⁷ In similar fashion, the *Organized Farmer*, official journal of the national organization, remonstrated: "We are true and loyal American citizens and as such pledge our full support to the Government in prosecuting the present war to a victorious conclusion." The same publication insisted, however, that "war profits must be seized for governmental purposes and equitable prices established for both producers and consumers."⁸

Hoping to rectify these evils, the representatives of the leading farmer organizations, including the Farmers' Union, the Grange, and the Equity, met at Kansas City, Missouri, in the spring of 1917. At this meeting resolutions asking for "unalterable support" of the Government in the crisis were passed. These resolutions were paralleled by demands for the creation of a commission representing the producers and consumers to protect them from the machinations of profiteers; for the fixing of prices; the prohibition of speculation; the closing of

⁵ *Ibid.*, 10(3):34 (June 1, 1917); Milwaukee Council of Defense, *Official Bulletin*, Jan. 24 and Feb. 21, 1918. See also H. C. Taylor and J. D. Black, "Farm Labor in Wisconsin," Wisconsin Agricultural Experiment Station, *Bulletin* 316, p. 4 (Madison, 1920).

⁶ Samuel Hopkins Adams, "Invaded America," *Everybody's Magazine*, 38:82 (January 1918); Charles D. Stewart, "Prussianizing Wisconsin," *Atlantic Monthly*, 123:103 (January 1919); *Wisconsin Agriculturalist*, 41 (47):12 (Nov. 24, 1917).

⁷ *Equity News*, 10(2):24 (May 15, 1917); (12):181 (Oct. 15, 1917).

⁸ *Organized Farmer*, 3(38):4 (Sept. 20, 1917).

boards of trade, stock exchanges, and chambers of commerce; and the enactment of a graduated tax on all incomes over \$25,000. They further demanded Government operation of packing houses, storage plants, terminal markets, and all those utilities that would make impossible speculation and profiteering in the war for "Democracy and humanity."⁹

The triumph of the Nonpartisan League in the North Dakota elections of 1916 had significant repercussions in the Equity. Early in 1917 the League had attracted the attention of some of the politically minded members of the Wisconsin Society. As a result, the annual stockholders' meeting of the Farmers' Cooperative Packing Company of Wausau, an offspring of the Equity movement, issued a call for a farmers' assembly to convene at Marshfield to organize the Nonpartisan League in Wisconsin.¹⁰ On March 22 about two hundred farmers representing eighteen counties assembled in Marshfield, and after marked differences regarding the best method of organization, demanded immediate affiliation with the Nonpartisan League. Resolutions were passed favoring State ownership of public utilities, the exemption of farm improvements from taxation, the enactment of legislation penalizing option buying and selling, the strengthening of income tax laws by the publication of the assets and incomes of tax payers, and an increased representation of farmers in politics. Another meeting which assembled at Wausau in April gave indications that a well-groomed political machine would be ready for the elections of 1918.

Chief aspirant for the leadership of this political movement was James N. Tittmore, already three times an unsuccessful candidate for Congress. Virtually unknown before his rise to the presidency of both the State and national organizations of the Equity, Tittmore now made himself the spokesman of the farming interests. Despite the limited nature of his own agricultural activities, he spoke eloquently and profusely of the need for "farmers to represent farmers," and assumed that he was ideally qualified to lead the "soil-tilling fraternity" in its quest for political victory. Tittmore set for himself the task of obtaining a membership of 50,000 for the Wisconsin Society and by combining rhetoric, politics, religion, and sophistry, he came close to achieving his goal. His intriguing tales of Lincoln's attempts to preserve the homestead, of his own birth in a "log cabin" and subsequent rise from telegraph boy to traffic manager of a railroad, of the farmers being "skinned" by the railroads, and of the possibility of "emancipation" by greater participation in politics ushered in the most hectic period of Equity's existence.¹¹

Immediately upon Tittmore's assuming office, the *Equity News* was flooded with his writings. Within a month, he was in Washington hoping to effect a closer working agreement between farmers and laborers. At approximately the

⁹ *Equity News*, 10(2):18 (May 15, 1917).

¹⁰ *Wisconsin Leader* (Madison), Sept. 11, 1920; *Equity News*, 9(21):720, 726 (Mar. 1, 1917); *Organized Farmer*, 3(16):5 (Apr. 26, 1917).

¹¹ *The Evening Wisconsin* (Milwaukee), May 2, 1918; *Equity News*, 10(17):259 (Jan. 1, 1918), (18):278 (Jan. 15, 1918).

same time he admonished his Equity readers that: "Unless we move on Washington, unless we dominate politics in Madison in our favor we will lose the bigger things, and our enemies will continue to reap where we have sown." In the same issue, he pleaded: "Let us put in a Governor this fall and a Senator who will go on the firing line and stay there until 'Old Wisconsin is redeemed,' " and "To the younger members of our Union in Wisconsin I say,—you have a wonderful opportunity to redeem the past,—in the name of God (I say it reverently) Do it!"¹²

Simultaneous with these political developments, issues involving the internal affairs of the State and national organizations of the Equity came to a head. Tittmore had scarcely been elected president of the Wisconsin union of the American Society of Equity when the national body, fresh from quarrels with the American Cooperative Association—its business organization—moved the national headquarters to Madison. Past relations between the parent organization and the American Cooperative Association were anything but cordial and both felt the need for settling their grievances. One of the first steps toward amnesty was a proposal that the parent organization publish the *Equity News*.¹³ After a series of preliminary negotiations, an agreement was reached which placed the paper under the control of the national organization. Shortly, thereafter, the first issue of the reorganized *National Equity News* came off the press under the editorship of the national secretary, Dr. J. Weller Long.¹⁴ Hailed as a forward move, this, in effect, marked the beginnings of renewed warfare, taking its toll in membership and finances.

Long, a bitter opponent of Tittmore, had been aptly referred to as "the last of the Populists." He was somewhat of a "rubbing-doctor" in his pre-Equity days, consequently the title, "Doctor." He had also taught school for about twenty years and had been identified with both the Farmers' Alliance and the Populists, whose candidate for Congress from the first Congressional district of Missouri he had once been.

When the Bryan and Populist forces merged in 1896, he deserted politics and enrolled in the American School of Osteopathy at Kirksville, Missouri. After practising this profession for eight years, he moved to Eau Claire, Wisconsin, an Equity center, where he immediately became identified with the movement. Favoring an increasing participation of farmers in politics, Long, unlike the political enthusiasts of a later day, spoke of the farm problem as being essentially a matter of solving the money question.

A third important Equity leader was the more conservative Daniel O. Mahoney who had served as State president of the Equity for seven years and national president for three.¹⁵ He was bitter in his denunciation of the none-

¹² *Equity News*, 10(19):189-190 (Feb. 1, 1918).

¹³ *National Equity News*, 1(2):11 (Feb. 14, 1918); *Equity News*, 10(18):276 (Jan. 15, 1918).

¹⁴ Chester C. Platt, *What LaFollette's State is Doing*, 59-60 (Batavia, N. Y., 1924); *National Equity News*, 1(1):1 (Feb. 7, 1918).

¹⁵ University of Wisconsin, *Biennial Report of the Board of Regents*, 1911-12, p. ii (Madison, 1912); *Wisconsin Equity News*, 1(7):7 (Aug. 1, 1908).

too-subtle political maneuvers of Tittlemore, and likewise, of the emotional exhortations of Long. Mahoney, previous to his affiliations with the Equity, had served as a school teacher, principal, county superintendent of schools, and county judge; while active in the Equity, he was a member of the Board of Regents of the University of Wisconsin.¹⁶ Although having some personal political inclinations, Mahoney saw no justification in using the Equity for other than educational purposes. To him the radical utterances of Long and the political manipulations of Tittlemore were anathema. Thus by 1918 three individuals with decidedly different outlooks and with positions high in the councils of the Equity, embroiled the State and national organizations in disputes that virtually annihilated the parent organization and all but paralyzed the State group.

Strong evidence of political cleavages in the Equity appeared when a special election was called in the spring of 1918 to fill the unexpired term of the deceased Senator, Paul Husting. During the campaign, Governor Emanuel L. Philipp, a stalwart Republican, asked the State Legislature to grant him the right to select Husting's successor, rather than call a special election—a practice discarded with the direct election of United States Senators.¹⁷ In this campaign Mahoney supported Irving L. Lenroot, a Republican, Tittlemore endorsed Joseph E. Davies, a Democrat, and Long favored Victor Berger, a Socialist.¹⁸ Hardly had the *National Equity News* started a poll of candidates on agricultural issues when the disgusted opponents of Long read his editorial proclaiming the nomination of Berger "a master stroke."¹⁹

Rumors of a farmer-labor alignment assumed new proportions after an announcement was made that the Nonpartisan League would not present a slate until two years hence.²⁰ An organization, temporarily known as the Wisconsin Farmers' Progressive League, called a meeting for May 1 to decide on the platform, the candidates, and the party through which the new political alliance was to function.²¹ Enthusiastic over the prospects of such an alignment, Long asserted that the Milwaukee meeting had planted the "little acorn" from which "a greater and nobler tree" would grow. Unsuccessful political experiences of the past were minimized, for "conditions now are quite different."²²

On May 1 approximately five hundred delegates representing the Equity, the Nonpartisan League, and labor met in Madison. A proposal to nominate a Nonpartisan League slate of candidates was rejected on the grounds that the

¹⁶ University of Wisconsin, *Biennial Report of the Board of Regents*, 1918-20, p. 2 (Madison, 1920); *Wisconsin Bluebook*, 1905, p. 1017, 1907, p. 1070.

¹⁷ *National Equity News*, 1(2):6 (Feb. 14, 1918); Frank Perry Olds, "Wisconsin in the Balance," *Outlook*, 117:412 (Nov. 14, 1917), and "The Wisconsin Situation," *ibid.*, 118:436 (Mar. 20, 1918).

¹⁸ *Organized Farmer*, 4(13):9 (Mar. 28, 1918).

¹⁹ *National Equity News*, 1(6):5 (Mar. 14, 1918).

²⁰ *Ibid.*, 1(12):11 (Apr. 25, 1918); *Nonpartisan Leader*, 6(20):16 (May 20, 1918).

²¹ *Milwaukee Daily News*, Apr. 6, 1918.

²² *National Equity News*, 1(11):1, 7 (Apr. 18, 1918).

League was not sufficiently organized, but a slate consisting of J. N. Tittmore for governor, H. L. Nickerson, for lieutenant governor, Merlin Hull, for secretary of state, J. Fred Larson for treasurer, and John J. Blaine for attorney general was endorsed without party designation.²³ Resolutions favoring the initiative, referendum, and recall were passed, and allegiance was pledged to the United States. Universal suffrage; the 8-hour day; Government ownership of public utilities, railroads, and telephone lines; cooperative buying and selling; erection of terminal facilities for agricultural products; reductions in the personal property tax; adoption of the Torrens land title system; and extension of educational opportunities to the farmers were all recommended.²⁴

The *Milwaukee Leader*, a daily Socialist publication, was suspicious of the Madison gathering, and dispatched a special representative to determine the motives behind the meeting. On May 3 the *Leader* reported that certain prominent members of the Equity were its "guiding spirits," and that the gathering was merely the beginning of a drive to place Tittmore in the governor's chair. "His ambition is to become governor of Wisconsin," wrote the *Leader*, "and he is willing to use any party to satisfy his ambitions." Charged not only with stifling the possibilities of placing a League ticket in the running that fall, Tittmore was likewise accused of appropriating his program from the "immediate demands" of the Socialist party and baiting it with "a platform, luscious and appetizing."²⁵

The Tittmore ticket, having decided to cast its lot with the Republican party, carried its program to the various parts of the State. Comments favorable to the candidacy of Tittmore literally filled the pages of the *National Equity News*. Campaigning in a fashion that would make him the envy of a revivalist, Tittmore displayed an uncanny ability in acclimatizing himself to a given community. Whether he had completely alienated himself from the political affections of the Nonpartisan League by 1918 is uncertain, but at least he tried to capitalize on whatever League sentiment prevailed. "We want terminal elevators and stock yards!" shouted Tittmore. "How will we get them if we do not go into politics? . . . Ask North Dakota whether it pays to go into politics? . . . Ask New Zealand?" Politics is as "holy an obligation" for the farmers to engage in "as is the Christian religion for the Christian."²⁶

In the Republican primaries, however, Tittmore was defeated by the incumbent, Emanuel Philipp, who obtained 72,000 votes as against 45,000 for the "ambitious Equitarian." The prospects for a political harvest were slim, and in the elections, only John J. Blaine, who was nominated for attorney general on the May 1 ticket, was successful. Forty-one legislators favorable to the

²³ *Milwaukee Leader*, May 1 and 2, 1918; *Evening Wisconsin*, May 2, 1918; *Organized Farmer*, 4(22):9 (May 30, 1918); *National Equity News*, 1(13):4 (May 2, 1918).

²⁴ *National Equity News*, 1(14):6-7 (May 9, 1918); *Milwaukee Free Press*, May 3, 1918.

²⁵ *Milwaukee Leader*, May 3, 1918.

²⁶ *National Equity News*, 1(18):6 (June 5, 1918).

Equity program were said to have been elected.²⁷ In consequence, the results of the 1918 elections were not discouraging to Tittmore supporters, and the possibilities of a successful campaign in 1920 were repeatedly voiced.

Meanwhile, the bitter internecine warfare continued. The year 1919 found the State and national organizations embroiled in controversies over post-war issues, politics, and finances. Among the first resolutions introduced in the State Equity convention that year, was one demanding that the Society resume control of its paper. This, in substance, was an attack on the radical utterances of Long. All factions opposing him joined in a demand that "the paper be more conservative than heretofore," for the members of the Wisconsin Society are "conservative men, true Americans who abhor radicalism and detest antagonism, and demand a truly American paper."²⁸

Hardly had this outburst subsided, when the so-called "red resolutions," introduced by George F. Comings, who was Long's first lieutenant, added fuel to the flames of controversy. Comings, besides being a disciple of Long, had had a varied public career. He had been a lecturer in the farmers' institutes sponsored by the Wisconsin College of Agriculture, and had served four years as a member of the State board of agriculture. He had also been a member of a committee of thirteen appointed by the State superintendent of schools to improve rural schools, and had only recently received an appointment to the State board of vocational education.²⁹ The "red resolutions" demanded the repeal of the Espionage Act and the release of conscientious objectors and opposed Congressional measures suppressing radical utterances.³⁰ An advocate of the measure remarked: "I have put 24 hours in jail because I said that Bob La Follette's stand on the war was right." Another added that he was one of five out of sixty-seven men to return from overseas and pleaded, "for God's sake men, remember the boys over there. We fought for personal liberty, let those men out of jail." With red-baiting fervor an army officer replied: "These conscientious objectors by refusing to sacrifice for their country told those boys who sleep over there and we over here, to go to hell."

Besides the "red resolutions" which were killed, there were others demanding that the Society fight "bolshevism" and "communism."³¹ Still another resolution sought to make officers of the Wisconsin Society ineligible for political office. Resolutions demanding the suppression of radical doctrines were passed, but one demanding abstinence from politics by Equity officers, which had been engineered by the Long faction whose leader had been denied a convention seat, was bitterly assailed by Tittmore, against whom it was aimed. "You farmers have lawyers, you have professional men in your halls of legislation, but not a

²⁷ *Ibid.*, 1(32):6-7 (Sept. 12, 1918); *Wisconsin Bluebook*, 1919, p. 93.

²⁸ *Wisconsin Equity News*, 10:9 (Nov. 27, 1919).

²⁹ *Wisconsin Bluebook*, 1921, p. 238.

³⁰ *Wisconsin State Journal* (Madison), Nov. 22, 1919.

³¹ *Madison Democrat*, Nov. 19, 1919; *Milwaukee Sentinel*, Nov. 20, 1919.

real farmer," he remarked indignantly. "And you would go further than that, you would make it that your capable farmers could not run for office. You are playing big business's own game."³²

In the selection of a State president for the Equity the same bitterness prevailed. Along with Tittmore, Mahoney, Assemblyman C. B. Ballard, and a member named J. L. Johns, were nominated. On the first ballot Tittmore garnered 1,180 votes, Mahoney 694, and Ballard and Johns 400 and 133, respectively.³³ In announcing his withdrawal from the presidential race, Johns asserted that "Tittmore is too small a man for the place," and asked all who could conscientiously do so to vote for Mahoney. Although the opposition to Tittmore grew rapidly he managed to "squeeze out" a victory of 1,222 to 1,192, attributing his success "to the young men of the Equity."³⁴

The national convention that likewise assembled in Madison that year was marred by similar disturbance. Scarcely had the meeting opened, when the anti-Long forces, seizing control of the executive board, ousted Long from his post as secretary-treasurer and editor, and supplanted him with a nonentity, Herman Samson.³⁵ Resolutions denounced the I. W. W., the "red radicals," and similar factions; the Nonpartisan League was neither endorsed nor condemned; the Kenyon-Anderson bill which favored Government operation of the meat-packing industry was approved; the seizing of Government war materials at unreasonably low prices and discriminatory methods was condemned, as was also the immediate return of the railroads to private interests; and a united front was urged in behalf of a cooperative marketing program. The excitement prevailing in the national convention was evidenced in the closeness of the presidential race which gave J. N. Carnahan the presidency by a fraction of a vote.³⁶

The tempest had hardly subsided when the financial condition of the national organization became a matter of deep concern, with charges and countercharges of dishonesty being hurled indiscriminately by the Tittmore and Long factions.³⁷ The newly elected national president called upon the various State organizations for financial assistance, but many were themselves withering away in internecine strife and financial impotence and little attention was paid to the stricken parent.

Despite the numerous cliques in the Equity, the aggressive Tittmore prepared for a fall campaign. Addressing an audience in Marinette, he advised the farmers to "go into politics way up to your heads."³⁸ A plea for closer

³² *Wisconsin State Journal*, Nov. 21, 1919; *Milwaukee Sentinel*, Nov. 22, 1919. The *Wisconsin State Journal* described Long as being of "tall, gaunt stature, scattering hair, standing collar and heavy watch fob." He reminded one of the days of the "gentleman from Kentucky, the honorable from Mississippi."

³³ *Wisconsin Equity News*, 10:4 (Nov. 27, 1919); *Madison Democrat*, Nov. 21, 1919.

³⁴ *Wisconsin State Journal*, Nov. 21, 1919.

³⁵ *Madison Democrat*, Dec. 13, 1919.

³⁶ *Wisconsin Equity News*, 10:4, 9 (Dec. 18, 1919).

³⁷ *Equity News*, 10(26):3, 13-14 (Jan. 14, 1920); *Organized Farmer*, 6(3):8 (Jan. 15, 1920).

³⁸ *Ibid.*, 10(26):14 (Jan. 14, 1920).

cooperation between farmers and laborers was followed by an informal poll of the farmers on labor issues, which revealed that about half the farmers were opposed to the 8-hour day. The *Equity News* advised the farmers that one of the objectives of the Equity was "To secure legislation in the interest of agriculture," and that any farmer organization which failed to do this was "losing a golden opportunity to be of service."³⁹ Anxious to ward off the encroachments of the Nonpartisan League, the *Equity News* added that the Society had the power to work out its own political and economic salvation, and counseled the farmers not to be frightened over the "bugaboo" of "keeping out of politics." Tittlemore, after a hurried trip to Florida early in 1920 to confer with the officials of the American Federation of Labor, announced that Samuel Gompers, president of the Federation, would make three much-awaited speeches in Tittlemore's behalf.⁴⁰ In formally announcing his candidacy he stated that "the principles of Equity, cooperation and coordination are essential to the welfare of the people."⁴¹

As previously indicated, the Nonpartisan League, which was in effect the progressive element in a new political attire, likewise presented its slate of candidates.⁴² It lost no opportunity in revealing Tittlemore's earlier anxiety to have the League organize Wisconsin. This organization also told how he had placed Wisconsin "behind North Dakota," and how he pleaded with their officials to "tackle this state." On another occasion he had written to League headquarters: "In the name of God start soon. You will find a very reactionary bunch of Equity leaders. They are a fine bunch of Equity men but afraid of their shadows."⁴³

By no means denying authorship of these letters, Tittlemore replied that they had been written when the Equity was in a dying state, before he had become an officer of the organization, and before the loyalty of the League had been questioned. In turn he charged that the Nonpartisan League was not a farmers' organization, but one headed by "sovietized vultures" and "socialist importations." "It is headed for state ownership just as much as this spring season is headed for summer and autumn." In presenting himself as the prescription necessary to remedy the farmers' ailments, Tittlemore described himself as being sufficiently strong to attract the votes of the "urban population" and the "logical man to combat the advances of extreme radicalism."⁴⁴ His all-embracing platform was calculated to capture the votes of the farmers, the laborers, and the women who had been recently granted suffrage rights. Among other things he asked for reduced living costs; cooperative buying and selling; the

³⁹ *Ibid.*, 10(28):9 (Jan. 28, 1920).

⁴⁰ *Organized Farmer*, 6(11):12 (Mar. 11, 1920); *Equity News*, 11(1):3, 13 (Aug. 4, 1920).

⁴¹ *Wisconsin Leader*, May 8, 1920.

⁴² *Ibid.*, Aug. 7, 1920. For an attack on the Nonpartisan League in Wisconsin, See J. N. Tittlemore and A. A. Vissers, *The Nonpartisan League vs. The Home* (Milwaukee, 1922).

⁴³ *Wisconsin Leader*, Aug. 7, 1920.

⁴⁴ *Equity News*, 11(2):9 (Aug. 18, 1920).

adoption of the Equity Business Plan; governmental assistance to farmers and laborers in purchasing homes; financial aid to returning soldiers; the coordination of public elevators, warehouses, and cold storage plants; greater efficiency in State commissions; the welcoming of women into politics; opposition to the Nonpartisan League; support of the initiative, referendum, and recall; the development of water sites for public and not private gain; and the right of labor to bargain collectively through representatives of its own choosing.⁴⁵

While the Equity farmers were being enticed by the Tittmore faction on the one hand and by the Nonpartisan League on the other, the deposed Dr. Long was busy organizing a secessionist movement. The newly created United Farmers of America, which had been organized by a number of Equity leaders who were dissatisfied with the Tittmore regime, included in its ranks: Dr. J. Weller Long; M. V. Perry, secretary of the Iowa Society; Clinton Ballard, an old-time progressive and member of the Wisconsin Society; H. C. Folkstad, secretary of the remnants of the Montana Union; and H. A. Fuller of Minnesota.⁴⁶ On May 27, a communication dispatched by Long announced a meeting of all the discordant elements in the Equity for the purpose of "transferring" their allegiance to the United Farmers. "Many are so thoroughly disgusted with the present conditions in the Equity," read the announcement, "that they are not paying their dues and something will have to be done to save the organization from utter ruin. Do not fail to be on hand with a proper delegation from your county." Meeting in Madison, the "secessionists" voiced protests against the management of the Equity and listened favorably to Long's denial of "raiding" the treasury. Long in turn accused Tittmore of appropriating Equity funds for the promotion of the latter's political campaigns in Wisconsin. The meeting then organized a Wisconsin branch of the United Farmers of America.⁴⁷

Meanwhile, the Nonpartisan League, headed by John J. Blaine, who had been elected attorney general on the Tittmore ticket in 1918, made headway.⁴⁸ Supporting Blaine was George F. Comings, lieutenant of Long and author of the "red resolutions." Comings had been temporarily denied his reappointment as a lecturer in the farmers' institutes, but made some political capital of the incident, and was nominated lieutenant governor. Intended as a "catch-all," the Nonpartisan platform embodied all the liberal and progressive planks of the day.⁴⁹ Among the numerous planks were provisions for the initiative, referendum, and recall; repeal of the espionage and sedition laws and the freeing of all political prisoners; repeal of the Esch-Cummins law; public ownership of railroads, stockyards, terminals, grain elevators, cold storage plants, and other

⁴⁵ *Ibid.*, 11(1):3, 13 (Aug. 4, 1920).

⁴⁶ *Ibid.*, 10(48):9 (June 16, 1920).

⁴⁷ *Ibid.*, 10(48):9 (June 16, 1920); *Wisconsin Leader*, June 12, 1920; *Madison Democrat*, June 5, 1920.

⁴⁸ *Wisconsin Leader*, Nov. 6, 1920; *Organized Farmer*, 6(33):2 (Sept. 15, 1920). For more detailed accounts of the Tittmore and Nonpartisan League campaigns, see *Equity News*, the *Wisconsin Leader*, and the *Organized Farmer*, for the months of May, June, July, August, and September 1920.

⁴⁹ *Wisconsin Leader*, June 19, 1920.

public utilities; increased taxation of larger incomes and inheritances; taxation of idle land so as to prevent its being used for speculation; lower interest rates to home builders; stringent enforcement of compulsory education laws; reduced living costs for university students; collective bargaining for employees through representatives of their own choosing; the granting of sufficient funds to the Division of Markets together with the authority to ascertain production costs of agricultural products on the basis of the 8-hour day; and the furtherance of agricultural organizations.

That the platforms of the Nonpartisan League and the "ambitious Equitarian" had an influence on the major political parties is apparent. The Republicans, besides pledging "adequate financial support to the Division of Markets" and "authority to stimulate cooperation," endorsed the establishment of cooperative associations on a nonstock basis and the "revision of the cooperative law to protect existing and future cooperative associations." Opposition, however, was voiced against "the leadership of the Nonpartisan League, the I. W. W., the Communist party," and the attempt of nonresident Nonpartisan Leaguers "to control the Republican party in Wisconsin."⁵⁰

Of similar bent was the Democratic platform which assailed "Socialistic, undemocratic and un-American principles," and invited all, regardless of party, to fight for "good government." The party pledged itself "to adopt any practical recommendations that the Division of Markets has to offer to strengthen and make more effective the operation of the Marketing Commission Law," and endorsed "the unrestricted and unhampered right of cooperative and collective bargaining for agricultural organizations."⁵¹

Despite an aggressive campaign by Tittlemore, the results, which were a stunning blow, showed that he had received only a little more than half as many votes as in 1918. Of the six Republican candidates for the nomination, he received the least votes, 27,000, as against 113,000 for Blaine, the nominee.⁵² In Milwaukee County where he had hoped to make an impressive showing he received 2,000 votes.⁵³ Especially humiliating was his failure to secure the votes of Equity members and their families, upon which he had greatly relied. In the Equity elections Tittlemore declined to run for State president, announcing that his withdrawal would be to the best interests of the organization. From this time on, his activities became negligible; indeed, his exit from the Equity was about as hurried as his entrance.

Although failing to enter the race for the presidency of the State Society in 1920, Tittlemore, nevertheless, gave approval to the candidacy of his first lieutenant, E. C. Pommerening, the youngest man ever elected president of the Equity.⁵⁴ Functioning with the energy of his master, this youthful "would-be" administrator supplanted the Tittlemore mania for politics with the Pommerening

⁵⁰ *Wisconsin Blue Book*, 1921, p. 81-82.

⁵¹ *Ibid.*, 78.

⁵² *Ibid.*, 70.

⁵³ *Organized Farmer*, 6(33):2 (Sept. 15, 1920).

⁵⁴ *Equity News*, 11(11):8 (Dec. 15, 1920); (12):3 (Dec. 22, 1920).

mania for cooperatives, setting up enterprises with a fantastic swiftness that sapped the organization of its remaining strength. The Equity was headed more speedily than ever for disaster.

The factors contributing most to the downfall of the Equity were the "rank opportunism," lack of experience, unity, and practical sense on the part of its leaders, and falling farm prices. These have been characteristic weaknesses in farmer organizations. Once under way, the Equity, like any other "going concern," attracted the attention of opportunists of various stripes. Placing a ranking official on a political ticket and utilizing its resources gave added weight to the argument that its leadership was prompted by selfish motives. Disputes arose, and in due time, the new undisciplined members who had been herded into the organization for the ostensible purpose of furnishing additional votes made a rapid exit. Subsequent to his defeat, Tittmore, the alleged political saviour, announced his withdrawal from Equity. Likewise, the erratic Pommerening administration, characterized by innumerable failures—having launched an Equity Dairymen's Association, an Equity Automobile Association, an Equity Health and Hospital Center, and numerous other enterprises such as oil and gas associations—not only brought upon itself the wrath of its older members, but also furnished the much-sought opportunity to charge the Equity with degenerating into a "racket."⁵⁵

The increase in dues in a period of rapidly declining prices of farm produce further curtailed membership. Dissatisfied members who saw the finances of the Equity squandered on political campaigns and dubious business ventures scarcely could be expected to assume added financial burdens. Furthermore, conditions peculiar to agriculture, such as the distance between farms which made the solicitation of dues a costly proposition, left the Equity at the mercy of the loyalty of its members, a loyalty which at times was conspicuous by its absence. The appearance of rival farmer organizations such as the Nonpartisan League, the Farmers' Union, the American Farm Bureau Federation, and the Producers' Alliance, each sponsoring a different program, added to the confusion of the bewildered farmers. The repeated quarrels between the State and national organizations also left their impact, it being said that the membership dwindled from 28,000 to 7,000 in five years.⁵⁶ Tardy recognition was given the fact that an organization built upon the shaky sands of revivalism could not subsist long. Infinitely more was necessary to produce a thriving organization than "damning" the "princes of industry," and the "gamblers in the necessities of life," or even falling prostrate before the altar of cooperation. Equity experiences revealed that the moment a cooperative venture failed the farmers returned to their old individualistic ways "with a vengeance."

Attempts to revive the Equity by reprinting passages from *The Third Power*, the old Equity Bible, in the *Equity News* and by recalling heroic struggles of the

⁵⁵ *Wisconsin Leader*, Jan. 29, 1921; *Wisconsin State Journal*, Oct. 21 and Nov. 29, 1921; *Madison Capital Times*, Nov. 4, 1921.

⁵⁶ *Equity News*, 12(38):9 (Dec. 1, 1923).

past were of no avail.⁵⁷ After a widely advertised campaign to fund the Equity debt, this objective was realized during the administrations of former Assemblyman George A. Nelson, the Socialist candidate for Vice President of the United States in 1936.⁵⁸ Although more practical in its declining years, the Equity failed to recover from the staggering blows received in its more opportunistic days. Rumors of merging with the Farmers' Union became rife in the early thirties, and after some heated discussions, the two organizations merged in 1934 under the name of the Farmers' Equity Union.⁵⁹

Despite current prejudices, the Equity may be credited with exerting some influence in favor of the cooperative movement. From a propagandist standpoint it marked the first wholesale attempt made by organized farmers on behalf of cooperation. Many believed that this persistent agitation was at least indirectly responsible for the teaching of cooperation in the Wisconsin College of Agriculture. In the establishment of local cooperatives, especially livestock, Equity achieved results. Particularly successful was the organization of the Equity Cooperative Livestock Sales Association of Milwaukee, a terminal marketing agency which did not remain under the auspices of Equity and today, under capable management, is still doing a thriving business.⁶⁰

Although the promotion of cooperation supplemented by legislation was the much-heralded objective of the Equity, at times the reverse appeared to be the case. Farmer representatives frequently showed an inability to discriminate between "good" and "bad" legislation. The popular rallying cry, "Farmers, elect Farmers," utilized to good advantage by the many varieties of farmer spokesmen, proved barren of results. Nevertheless, the Equity exerted considerable legislative influence. It was largely responsible for placing a binder twine plant in the State penitentiary. With the assistance of the "Right Relationship League," an organization for the promotion of cooperation, and a few progressive leaders like Henry Krumery and Charles McCarthy, the Equity shouldered much of the burden for the passage of the cooperative marketing act of 1911 which was copied "verbatim" by other States. Its agitation to give "scientific direction" to the marketing of Wisconsin agricultural products was largely responsible for the creation of the Wisconsin State Board of Public Affairs.⁶¹ In 1919, the Wisconsin College of Agriculture, the Equity, and a number of other agencies, were instrumental in placing a marketing division in the State department of agriculture.⁶² Again, in 1929, when indications were

⁵⁷ *Ibid.*, 11(19):5 (Feb. 9, 1921).

⁵⁸ *Madison Capital Times*, Sept. 30, 1924; *Wisconsin State Journal*, Dec. 10, 1924.

⁵⁹ *Milwaukee Journal*, Nov. 9, 10, 1933; *Madison Capital Times*, Nov. 10, 1933; *Nebraska Union Farmer*, 20(21):10 (Feb. 28, 1934).

⁶⁰ R. H. Steidl, *A Brief History of the Equity Cooperative Livestock Sales Association*, 1-2(n.d., n.p.).

⁶¹ Theodore Saloutos, "The Wisconsin Society of Equity," in *Agricultural History*, 14:87-90 (April 1940).

⁶² Milo Milton Quaife, *Wisconsin: Its History and Its People, 1634-1924*, 2:488 (Chicago, 1924).

that the Division of Markets was to be abolished in the proposed consolidation of governmental agencies, the Equity fought for its preservation.⁶³ It was a legislator residing in old Equity territory who initiated a bill requiring the teaching of cooperation in the State university, State teachers colleges, and county normal schools.⁶⁴

The Wisconsin Society of Equity, which grew out of the earlier campaign to control production and fix prices but subsequently assumed the more practical objectives of organizing cooperatives and stressing the need for legislation, was once the proud possessor of 40,000 members. That its principles were often submerged by selfish interests, a process described as "growing pains" by the more sympathetic, is not to be denied; yet, in its brighter aspects it was the agricultural counterpart of the progressive movement. Coming to precipitous decline in the post-war period, owing to the intrigues of self-seeking leaders, the agricultural depression, and the appearance of rival organizations, the Equity Society, nevertheless, affords a fruitful field of study for future farmer organizations. Its efforts to make the farmers "group conscious," and its pioneering activities in behalf of cooperation, have left their imprint on the agricultural history of Wisconsin.

⁶³ *Equity News*, 24(7):4 (Apr. 1, 1929).

⁶⁴ *Ibid.*, 24(24):10 (Dec. 15, 1929). At the annual Equity convention of 1928, the Equity Committee on Education was successful in passing a resolution urging the teaching of cooperation in "all schools." *Wisconsin Senate Journal*, 1935, p. 291-292, 609, 610, and 660.

RURAL-URBAN MIGRATION¹

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United States Department of Agriculture*

Nearly three hundred years ago, in 1662, in a book called *Natural and Political Observations . . . Made upon the Bills of Mortality*, Captain John Graunt concerned himself with the sources of the growth of London during the first forty years of the seventeenth century. He found that burials had exceeded christenings—i.e., deaths had exceeded births—but nonetheless, the city had continued to grow. To quote from his report, he found, "That *London* should have decreased in its People; the contrary whereof we see by its daily increase of Buildings upon new Foundations, and by the turning of great Palacious Houses into small Tenements. It is therefore certain, that *London* is supplied with People from out of the Country, whereby not only to supply the overplus differences of *Burials* above-mentioned, but likewise to increase its *Inhabitants* according to the said increase of housing."²

Nearly a hundred years later another political arithmetician, Corbyn Morris, found that during the 62-year period ending in 1750, there had been half a million more burials than christenings in London and yet the city had continued to grow. Like his predecessor, he attributed the continued growth of the city to a steady stream of migrants into London. The movement was considered important both from a quantitative and a qualitative point of view. The migrants from the country appeared to be persons in their prime,—the flower of the country youth in full possession of their best vigor and activity. The influx of this active population, following a plague which had removed many of the infirm and unhealthy who would not have contributed appreciably to the number of christenings, could restore the married population of London to its former level within a few months.

The comments of Morris on the effects of this migration on the rural areas has a familiar ring. He pointed out that the farmers were beginning to complain of a lack of laborers and of the increasing wages demanded by those whom they were able to secure, and concluded that this reduced the amount of foodstuffs grown and raised their price with no advantage to the farmer or landlord. The far-reaching effects of this movement were expected to make themselves felt in such a rise in prices that exports would decline, and the domestic market would

¹ This paper was presented with the title, "The Migration from the City to the Country," as part of a panel discussion on the City's Stake in Agriculture, sponsored by the Agricultural History Society as a joint meeting with the American Historical Association in New York City on Dec. 30, 1940.

² John Graunt, "Natural and Political Observations Mentioned in a Following Index, and Made upon the Bills of Mortality (ed. 5, much enlarged, London, 1676), in Charles Henry Hull, ed., *The Economic Writings of Sir William Petty, together with the Observations upon the Bills of Mortality, more probably by Captain John Graunt*, 2:370 (Cambridge, Eng., 1899). The first edition of Graunt appeared in 1662.

be demoralized by the legal or illegal importation of the same goods at lower prices. The role of the city as a consumer of populations, which has been frequently pointed out since then, was apparent to Morris. As reasons for the excess of burials, he gave the influx of unmarried persons who might increase the number of burials but not the number of births, the unhealthiness of the city air with its effect on infant mortality, the greater prevalence of venereal disease in the city, and those aspects of city life which discouraged matrimony. He concluded that "above all, the present increasing diminution of the christenings in London beneath the burials, with many other evils, is particularly to be attributed to the enormous use of spiritous liquors."³

The circumstances which Graunt and Morris described were not unique to London in the seventeenth and eighteenth centuries. On the Continent, too, the role of rural migrants into cities has been recognized for some time. Karl Bücher, in his pioneering study of the population of Frankfort-am-Main in 1886, presented an analysis of the origins of the men who were admitted to citizenship between 1311 and 1500. Down to 1350 more than half had come from an area less than 9 miles from the city, but between 1451 and 1500 the proportion had dropped to only about one-fourth, showing some increase in the distance from which migrants into the city were recruited. The rural element predominated among the short distance migrants. Although there was some increase in the proportion of migrants coming from other cities in the fifteenth, as compared with the fourteenth century, nevertheless, about two-thirds of the migrants into Frankfort during the two centuries came from rural districts. Subsequently there were many other studies of the population of medieval cities which reached substantially the same conclusions as those reached by Bücher.⁴

In a number of European cities it has been possible to determine with considerable accuracy the relative roles of migration and natural increase in the total growth of the cities, for newcomers are required to report to the police shortly after their arrival, and relatively complete statistics could be developed on the basis of the forms collected as a result of this requirement.

Thus, in Berlin, 70 percent of the increase in total population during the 1880s was due to migration into the city; Hamburg and Breslau reported the same ratio, while in Munich it was more than 80 percent and in Leipzig it was just below 50 percent. Comparable ratios for a number of other cities were: Prague, Stockholm, and Manchester—70 percent; Brussels, Antwerp, Rotterdam, Amsterdam, and Copenhagen—approximately 50 percent; Vienna—41 percent; and Birmingham—26 percent. London and Liverpool proved the exceptions for the decade, as their statistics show a net migration away from the city. Adna F. Weber, in 1899, stated that of 30 great cities of Europe, 23 owed more than one-half of their growth to immigration, which was largely migration from rural areas. A large volume of statistics could be assembled to show the role which migration, primarily that from rural areas, has played in the develop-

³ Corbyn Morris, "Observations on the Past Growth and Present State of the City of London," *A Collection of the Yearly Bills of Mortality from 1657 to 1758, inclusive*, 77-151 (London, 1759).

⁴ Conrad Taeuber, "Migration to and from Selected German Cities," unpublished thesis in University of Minnesota Library.

ment of urban populations, both in the Europe of the nineteenth and twentieth centuries and in the United States.⁵

The rapid growth of cities attracted wide attention among writers in the latter part of the nineteenth and the early part of the twentieth centuries. One of the most ambitious discussions of this period was that by Georg Hansen, who developed a theory of societal development on the basis of his findings concerning rural-urban migration. Hansen argued that there are two main classes in society—the farmer peasants and the proletariat—the middle class in cities being merely a transition state from one of the major classes to the other. As a result of high birth rates, the rural classes accumulate an excess of population which is eventually drained off into cities, where it enters the middle classes. The upper classes tend to die out due to low fertility and the failure of children to inherit the abilities of their parents. The proletariat also tends to die out since high death rates offset high birth rates, and this group fails to develop much leadership which would pass into the upper classes. Thus, the process of draining off the strongest and best blood from the rural areas leads to the “flowering” of society, but this is a condition which cannot last, and decline inevitably follows in its wake.⁶ Much of Hansen’s argument does not apply to present-day conditions, and some of his contemporaries pointed out that there were several errors in his basic data. There followed a great deal of controversy over the processes involved in urbanization and rural-urban migrations, and out of this developed further analyses of the components of urban growth and of the relation of rural and urban populations in the national economy.

The growth of most cities in the United States has not been subject to the irregularities resulting from the violent epidemics which beset many of the European cities in earlier times, and in nearly all American cities there has regularly been an excess of births over deaths. This excess has rarely been sufficient to assure the continued replacement of the population, let alone its growth. However, the demands of a rapidly expanding industrial system called for larger and larger concentrations of population and the migrants from European and American rural areas furnished the manpower for these concentrations. Almost from the founding of the country, cities were in competition with the western frontiers for manpower. Although there were large expanses to be settled in the west, the cities in the older settled territory were also attracting large numbers of settlers, and the mushrooming of cities on the frontier is one of the unique features in the history of the peopling of the United States. At the time of the first Census in 1790, the country was still largely agricultural, with approximately 80 percent of its population living on farms. Despite the rapid growth of farm population during the next hundred years, the proportion of persons living on farms had become less than one-half in 1880, and fifty years

⁵ Richard Böckh, *Statistisches Jahrbuch der Stadt Berlin* (1892), 19:92-96 (Berlin, 1894); Adna Ferrin Weber, *The Growth of Cities in the Nineteenth Century; A Study in Statistics* (New York, 1899). Rudolf Heberle and Fritz Meyer, *Die Grossstädte im Strome der Binnenwanderung* (Leipzig, 1937); Dorothy Swaine Thomas, “Research Memorandum on Migration Differentials,” Social Science Research Council, *Bulletin* 43 (New York, 1938); Jane Moore, *Cityward Migration; Swedish Data* (Chicago, 1938).

⁶ Georg Hansen, *Die Drei Bevölkerungstufen* (Munich, 1889).

later, the Census reported that only 1 out of every 4 persons were living on farms. Harold F. Wilson's study of the shifting populations of northern New England includes abundant evidence of the attraction of cities for rural young people ever since the 1830s.⁷ R. S. Tucker has shown that the natives of the rural areas in the eastern industrial States frequently preferred the nearby cities to the frontier areas. For example, among the nonresident natives of Massachusetts and Rhode Island in 1850, less than one-fourth were on the frontier, and there were more in New York City alone than in any of the fifteen frontier States. Moreover, he has shown that between 1840 and 1850 the population of the fifty largest cities grew more rapidly than that of the fourteen public land States of that period.⁸

The people in the United States were free to move wherever they wished—even international boundary lines or lines established by treaties were not sufficient to hold back the onrushing wave of settlers. In such a setting there was little tolerance for any system which would permit local or central governments to keep a record of the migrations of the people. Laws governing poor relief and the franchise continued on the assumption that each person had a fixed residence, but actually there was a maximum freedom to move wherever opportunity appeared to call. This was somewhat hard on the statisticians, for most of the records of the migration had to be inferred from meager statistics collected for other purposes. Nonetheless, the major outlines of the urban development are clear. Decade after decade, the rate of increase in the urban population exceeded that of the rural population, although the rates of natural increase of cities have always been below those of rural areas as a whole.

There are no complete data on migration in the United States, either for the recent or the earlier periods, but it is possible to secure some indication of the importance of rural migrations in city growth by considering the proportion of the population living in cities which is not native to the State. This procedure provides a measure of internal migration, but the total migration is understated, for a large share of the migrants into any city are from the nearby rural areas. In the 25 largest cities for 1930, the proportion of the population born outside the State in which the city is located ranged from 17.0 percent for New Orleans to 80 percent for Los Angeles, and for the 22 cities in this group for which data are available for 1880, the percentages then ranged from 27 percent for Baltimore to 72 percent for Minneapolis.⁹ If the persons born abroad are omitted, and

⁷ Harold Fisher Wilson, *The Hill Country of Northern New England* (New York, 1936).

⁸ R. S. Tucker, "The Frontier as an Outlet for Surplus Labor," in *Southern Economic Journal*, 7 (2):173, 175 (October 1940).

⁹ The percentages of the total population of the 25 largest cities not born in the State in which the city is located are as follows:

City	1870	1880	1890	1900	1910	1920	1930
New York.....	47.4	44.1	48.0	44.9	48.8	44.7	45.7
Chicago.....	70.6	60.7	60.3	54.7	53.4	48.6	48.5
Philadelphia.....	36.5	34.6	36.1	34.7	36.6	36.1	35.6
Detroit.....	59.9	53.9	51.2	45.7	47.3	55.1	57.5
Los Angeles.....	—	—	76.1	72.6	80.0	79.9	79.7
Cleveland.....	55.9	50.5	48.8	45.2	47.2	48.2	47.8
St. Louis.....	56.8	50.5	46.1	44.1	42.1	38.8	37.6
Baltimore.....	29.8	27.2	26.1	25.3	26.2	27.3	28.0

attention is focused only on those persons born in the United States, the same dependence on migration from without is clearly indicated. Of the 25 largest cities, 11 reported a larger proportion of their native-born population had come

City	1870	1880	1890	1900	1910	1920	1930
Boston.....	49.1	45.9	49.5	49.1	48.3	43.8	40.6
Pittsburgh.....	40.1	36.2	39.0	38.0	37.7	33.3	30.0
San Francisco.....	74.2	66.6	61.9	54.7	56.5	55.1	56.2
Milwaukee.....	60.0	50.0	47.4	40.7	39.6	35.1	33.8
Buffalo.....	44.0	38.2	41.4	36.8	35.8	33.4	32.4
Washington, D. C.....	60.9	55.7	55.5	57.0	57.9	63.4	62.9
Minneapolis.....	—	71.8	69.3	59.0	56.6	51.3	43.7
New Orleans.....	40.1	30.1	23.9	21.1	20.3	19.9	17.1
Cincinnati.....	48.6	40.6	37.5	33.3	34.7	33.7	37.8
Newark.....	47.0	41.7	43.2	43.3	47.2	45.4	48.1
Kansas City, Mo.....	74.6	67.7	67.2	58.3	57.1	54.8	50.6
Seattle.....	—	—	91.8	85.5	83.9	77.1	69.3
Indianapolis.....	56.2	48.6	41.0	38.0	36.1	35.3	33.9
Rochester.....	39.5	34.9	35.5	30.8	34.4	32.2	32.0
Jersey City.....	66.7	58.2	56.5	56.8	50.9	46.8	43.5
Louisville.....	40.3	33.2	29.0	26.6	24.7	22.9	21.3
Portland, Oreg.....	—	—	78.0	71.5	75.6	70.3	66.8
United States.....	34.3	32.4	33.5	31.7	33.5	32.8	32.7

The totals for New York and Brooklyn were listed separately in 1870, 1880, and 1890.

The percentages of the native-born population of the 25 largest cities not born in the State of residence are as follows:

City	1870	1880	1890	1900	1910	1920	1930
New York.....	9.1	11.2	15.0	12.7	13.5	13.5	17.7
Chicago.....	43.0	33.7	32.8	30.7	27.4	26.6	30.9
Philadelphia.....	12.7	13.7	14.0	15.4	15.7	18.1	20.4
Detroit.....	27.7	24.1	19.2	18.0	20.4	36.6	42.7
Los Angeles.....	—	—	68.0	65.9	74.8	74.5	74.6
Cleveland.....	24.2	21.3	18.6	18.6	18.9	25.8	29.8
St. Louis.....	32.4	29.3	27.8	30.7	29.1	29.3	30.8
Baltimore.....	11.0	12.4	12.1	13.6	14.3	17.8	20.5
Boston.....	21.5	20.9	21.9	21.6	18.8	16.8	15.2
Pittsburgh.....	11.5	10.7	12.0	15.8	15.4	16.1	16.2
San Francisco.....	49.2	39.8	33.8	31.3	33.9	36.4	40.0
Milwaukee.....	24.2	16.8	13.9	13.7	14.0	14.6	18.1
Buffalo.....	7.8	7.7	9.8	10.2	10.8	12.3	14.7
Washington, D. C.....	55.3	50.9	51.5	53.6	54.5	60.8	60.3
Minneapolis.....	—	58.6	51.4	41.4	39.3	36.5	31.8
New Orleans.....	19.8	13.6	11.3	11.8	13.0	13.8	13.1
Cincinnati.....	18.7	17.5	17.7	18.9	22.5	25.8	32.6
Newark.....	19.5	17.3	18.2	20.1	22.4	23.8	29.6
Kansas City, Mo.....	66.7	61.2	61.0	53.0	52.2	50.6	47.1
Seattle.....	—	—	88.0	80.1	77.5	69.2	60.9
Indianapolis.....	43.7	38.2	31.6	31.1	30.2	31.6	31.3
Rochester.....	8.4	7.3	8.3	7.7	10.1	10.6	12.0
Jersey City.....	45.8	38.1	35.4	39.8	30.8	28.5	27.3
Louisville.....	19.9	17.9	16.9	18.1	18.3	18.9	18.9
Portland, Oreg.....	—	—	64.8	60.1	67.8	63.3	60.2
United States.....	23.2	22.1	21.5	20.9	22.0	22.6	23.8

from other States in 1930 than was the case in 1870. The percentages in 1930 ranged from a low of 12 percent in Rochester, New York, to a high in Los Angeles, where approximately 75 percent of the native-born residents reported that they had been born in a State other than California. Three other large cities—Washington, D. C., Seattle, Washington, and Portland, Oregon—reported that three-fifths of their native-born population had come from some other State. What proportion of these migrants across State lines had been born and reared in rural areas it is not possible to determine, but undoubtedly the rural migration formed a large part of the total. The native-born population in the largest cities has been increasing at a rate considerably in excess of that which is found in the rural population.

The importance of migration, much of which comes from rural areas, may be shown also by a comparison of the estimated growth in the population of cities which is due to the excess of births over deaths and that which is due to migration. Several years ago the National Resources Board prepared such figures for a number of large cities, estimating on the basis of the population of 1900 what the population in 1930 would have been if the rate of growth had been dependent entirely upon the natural reproduction of the population, and how much of the growth was due to migration.¹⁰ The natural increase during the 30-year period accounted for as much as half of the total increase in only 5 of the 25 largest cities in 1930, with migration into the cities accounting for the remainder. In all of the others, migration contributed more to the net increase than did the excess of births over deaths, and in a number of them the increase due to migration was many times that which could be attributed to the natural increase. In Detroit, for example, migrants accounted for more than ten times as large an increase as the excess of births over deaths during the first thirty years of the present century, and similar ratios apply to Los Angeles, Washington, D. C., Minneapolis, and Seattle. Other cities in which migration contributed more than three times as many persons as were added through the difference between births and deaths include Cleveland, Boston, Pittsburgh, Kansas City, and Portland. Fertility ratios declined to such a point that only 4 of the 92 cities of 100,000 and over had sufficient births to replace permanently their populations if the birth and death rates which prevailed in the latter half of the 1920s were to persist.

The failure of cities as a whole to provide for an excess of births over deaths sufficient for their population growth is not a development of the twentieth century, but can be established for all periods of American history. One student has reported for 1800 that "If the 'gross' reproduction rate in the rural areas is assumed to equal 100, that of cities under 10,000 is 70, that of cities of 10,000-25,000 is 57, that of cities of 25,000-50,000 is 62, and that of New York, the only city over 50,000, is 64." He found similar differentials in reproduction rates in each State and territory through 1810, 1820, and 1830.¹¹

Current figures which still show an excess of births over deaths in most of the

¹⁰ National Resources Committee, *Our Cities—Their Role in the National Economy*, 35, and map facing p. 34 (Washington, June 1937).

¹¹ A. J. Jaffe, "Differential Fertility in the White Population in Early America," *Journal of Heredity*, 31: 407-411 (September 1940).

large cities are affected by past migrations which swelled the young adult age groups. Birth rates have not been sufficiently high to replace these persons as they pass into the older age groups. Without migration, the population of cities in 1960 would be less than it was in 1930, although under these conditions the population of the rural areas would have increased so that the total population would be greater than it was in 1930.¹² It is clear that if there is to be any future growth in the large cities, it must come about by migration from other areas. In general such a statement could also be made for the smaller cities, as well as the suburban areas surrounding the larger cities.

Until the World War, migration from European countries, where to a large extent the rural areas were tapped, provided a large part of the urban growth,¹³ but during 1914-1918 the supply of European immigrants was virtually cut off. There was an instant demand for more labor, which could be met only by the rural areas, largely those of the South, where nearly half of the Nation's rural population is concentrated. The volume of foreign immigration during the years immediately following the war did not reach pre-1914 levels and the quota laws eventually reduced the movement to a small fraction of what it had been. Demands for more workers were again met to a large extent by migrants from rural areas, with the South supplying about two-thirds of the total.

Every Census between 1880 and 1930 showed that the rate of growth of the urban population was three to nine times as great as that of the rural population, although, if natural increase had been the only factor, the rural areas would have increased more rapidly. Between 1920 and 1930 when immigration from Europe was only a small fraction of what it had been in earlier decades, the urban population increased by 27 percent, while the rural increased slightly less than 5 percent. Such a difference in the rates of growth was possible only by virtue of the transfer of millions of rural residents to cities.

During the 1920s, some 6 million persons net were transferred from rural to urban areas. The farms contributed virtually all of this total—villages and other rural-nonfarm areas reported only a small net migration. By supplying 6 million persons to nonfarm areas, the farms gave up a number equal to approximately 20 percent of their population at the beginning of the decade. This migration did not mean a net loss of the same size, for during the decade there was an excess of births over deaths large enough to account for slightly more than $4\frac{1}{2}$ million persons. Nonetheless, the farm population was decreased by nearly $1\frac{1}{2}$ million persons during the 1920s, which brought the net loss between 1910 and 1930 to nearly 2 million. At the same time the number living elsewhere than on farms increased by nearly 33 million. The farms had contributed approximately 12 million persons net to this increase, nearly all of which occurred in cities.

To say that some 6 million persons were transferred from rural areas to cities during the 1920s is to state only a part of the shift of population which occurred. Such a net figure is the result of a much larger number of movements which

¹² National Resources Committee, *Estimates of Future Population by States*, a series of tables prepared by Warren Thompson and P. K. Whelpton (Washington, December 1934), and *The Problems of a Changing Population* (Washington, May 1938).

¹³ Marcus Lee Hansen, *The Atlantic Migration, 1607-1860* (Cambridge, Mass., 1940).

occurred during the period. According to the estimates of the Bureau of Agricultural Economics, the total number of moves from farms to towns and cities during the ten years between 1920 and 1930 was 19 million and about 13 million moved in the opposite direction. The difference yields a net migration of 6 million. This migration was greatest among the young people; nearly 2 out of every 5 rural young people who reached their twentieth birthday during the decade had moved to cities by 1930. About 40 percent of the new workers in cities during the 1920s had come from rural areas.

The importance of this volume of migration for the population living on farms is easily shown. Commercial agriculture has been utilizing the labor-saving results of a long line of technological developments, and it has been geared to consumption demands which have depended to a large extent on fluctuations in export markets, the instability of commerce and industry, and the slowing down of rates of population growth. Such an agriculture does not require and cannot absorb additional manpower. Despite the net transfer of some 12 million migrants from farm to nonfarm areas between 1910 and 1930, at the end of that period the number of persons living on farms had not been adjusted to the demands for manpower of a commercial agriculture. The Census reports for that year show that the less productive half of the farms were contributing only 11 percent of the marketed crops, less than the value of exports for 1929. In view of the subsequent decline of the export markets and the continued increase in productivity of some crops, it seems entirely possible that the more productive half of the farms could raise all of the agricultural products now consumed by the Nation.

The twenties were a decade characterized by farm depression and urban prosperity. However, late in that decade there was a slowing down of migration to cities, and after 1929 there were sharp reductions, both in the gross number moving in as well as the number going to farms. Preliminary figures indicate that the rural and urban segments of the population grew at approximately the same rate between 1930 and 1940, in contrast to the situation between 1920 and 1930 when the urban rate of growth was nearly six times that of the rural population. The proportion of population living on farms, which had been steadily decreasing for a century and a half, appears to have remained approximately the same from 1930 to 1940. Although only six of the 92 large cities had ever before reported a loss in population from one Census to another, 28 lost population since 1930, and only 17 had increases of 10 percent or more.

These figures deal only with the population within the corporate limits of the cities, and there is some reason to believe that the suburban areas around these cities increased more rapidly than the cities themselves. Thus, the 92 large cities with a population of 37,600,000 reported a gain of 1,600,000 since 1930, but the remainder of the counties in which they are located, with a population of only one-third as great reported nearly the same net increase, 1,500,000 persons, and in terms of percentage rates of change, this means that while the population of the central cities was increasing by 4 percent, that of the remainder of the counties in which these cities are located increased by 14 percent or more than three times as rapidly. Even when the population changes in these suburban areas are taken into account, it appears that there has been a reduction in the rate of growth of the larger metropolitan areas. Cities of 25,000 to 50,000

grew less rapidly than the national average, but those of 10,000 to 25,000 grew more rapidly than the national average.¹⁴ Conversely, the net migration from farm areas was reduced below the level which prevailed in the preceding two decades, although there had been no similar reduction in the rates of natural increase of the farm population. The rates of natural increase have been highest in the poorest farm areas, which without migration could easily double their population in a generation, and the migration which has occurred appears to have been greatest from the more commercialized farming areas than in the others. This has meant a growing population pressure on farms in the areas least able to absorb additional population.

Commercial agriculture does not appear to be able to absorb all of the population growth which is still occurring on farms. The demand for agricultural products is far less elastic than that for industrial products, and efforts to increase domestic consumption of agricultural products have not yet been sufficient to offset declines in export demands. The technological changes in agriculture reduce the number of workers required in agriculture and even though these displaced persons may be absorbed elsewhere in the economic system, some migration is required. Currently approximately 377,000 young men on farms are annually reaching working age. Some 188,000 of them are needed to replace older men who die or retire, and if the number of males of working age is not to be increased, other outlets must be found for 189,000 annually. If, in response to the possibilities of increased productivity, the number of persons of working age on farms is to shrink in the future, even larger numbers become available for shifts away from farms. Something of an upper limit to this potential migration may be found in the estimate that if the entire farm population is to have average incomes like those prevailing in the Corn Belt, the number of persons living on farms would have to be reduced by 8 million.¹⁵ During the 1920s, when there was a net migration of 6 million persons away from farms, the net decrease in farm population was only 1,400,000, due to the excess of births over deaths. Even with the increased employment resulting from the defense effort, it is not likely that the farm population will soon be reduced to the number which is required to man the present commercial agricultural plant. Moreover, many people would consider such a reduction in number of people living on farms as a major national calamity. They believe that efforts to support the maximum population on the land are not only necessary but highly desirable. They insist that one of the major questions in agriculture today is not, How many people can agriculture support? but rather, How can agriculture be organized to support the largest number of people?

The transmission of property from one generation to another assumes an important place along with the transmission of opportunity for gainful employment. In the absence of any considerable block of available new lands, a farm group has three major possibilities: limit the size of families so that present holdings may be preserved intact; transmit present holdings to one heir—usually

¹⁴ Warren S. Thompson and P. K. Whelpton, "Changes in Regional and Urban Patterns of Population Growth," *American Sociological Review*, 5:921-929 (December 1940).

¹⁵ Oris V. Wells, "How Many Farmers Do We Require?" *Land Policy Review*, 3:3 (September 1940).

the oldest or youngest son—with or without any other consideration to the other heirs; or divide the property among the heirs, with each attempting to operate the parcel he secures or one of them undertaking to purchase the interests of the others.

It is conceivable that birth rates on farms will drop to levels which would just assure replacement of the population. If that were to happen, the farm population would not be faced with the alternatives of further subdivision of agricultural holdings or with continual migration away from farms. In the present situation those are the alternatives and migration from farms has been the major technique for adjustment especially in the commercial farming areas. The transfer of wealth involved in this process is considerable, and it is only partially offset by remittances from migrants to dependents in rural areas.

Since rural-urban migration involves a selection from among the rural population, the question of the qualitative effects of this selection is frequently raised. It is well established that the migrants are chiefly young adults and that women are slightly more numerous among them than men, but on matters of physical or mental health, intelligence, social adaptability, motivations, and similar characteristics, the evidence is not at all conclusive. Frequently, there is the temptation to accept the flattering conclusion that "rural-urban migrants are superior"—regardless of what is meant by the term, "superior." If there should be any selectivity for traits which are hereditary, the fact of lowered birth rates in cities might make for the gradual disappearance of those traits in the rural and in the national population. On the other hand, it may be that the constant recruiting of rural born and reared persons into urban professional, business, and industrial occupations provides part of the social fluidity which is an important part of a democratic social order. However, to set forth any final statement about qualitative differences between migrants and nonmigrants and any tendency to decrease the frequency of certain traits in the population as a result of rural-urban migrations would be premature in the light of available research.

At the present time it is not at all clear whether the future development of industry will continue to call for large-scale transfers of workers from the rural areas where they were reared to those industrial areas where employment opportunities are best. There are indications that there has been a trend toward decentralization in some industries, and there is much interest in the possibility that to some extent at least the development of industry may be greatest in those areas which are now producing the greatest population surpluses above their own replacement needs. In the absence of any measures which would effectively raise fertility levels in cities and industrial areas, there is a strong likelihood that while rural-urban differentials in fertility remain there will be a continued need for the constant recruitment of urban workers from rural areas and their absorption into the urban economy alongside those who are reared in urban areas. There is also a growing awareness of the problems which arise out of the fact that at present the areas least able to afford educational and other cultural facilities are rearing a disproportionately large number of the children who will be the adults of the next generation.

ANTE-BELLUM NEW ORLEANS AS AN AGRICULTURAL FOCUS¹

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"The truth is New Orleans appears to me to be at the extreme of everything, the hottest, the dirtiest, the most sickly, and at times the most healthy, the busiest and the most dull, the most wicked & the most orderly. They have in truth the most business, the best of land, the prettiest of women, the fastest of horses and the most delightful climate. It rains harder, it is more dusty. . . . Changes take place here with almost the rapidity of thought. Today rich, tomorrow poor, today well, tomorrow dead, today hot, tomorrow cold, today dry, tomorrow wet, suffocating for air one day and the next suffering from extreme winds which almost vie with a hurricane in their fierceness. . . . An observing man can see as much of the world & of diversified character here as in any city in the union. It is the grand reservoir of the great West."²

In these words Henry B. Whipple, youthful New Yorker, characterized the Crescent City in the early 1840s as he toured the South for his health. His picture of the "great Southern Babylon" was not unlike those sketched with more artistry by scores of travelers who included America's most interesting city in their itineraries, put pens to paper, and thereby served historical posterity. New Orleans was, in fact, the most cosmopolitan of southern cities. Its population was a strange mixture of European and American, of Protestant and Catholic, of native and naturalized, of opulent and indigent, of black and white, of free and slave. Its racecourse was truly celebrated, its theater justly renowned, its creole women unusually beautiful, its French quarter lecherously intriguing, its brothels incomparably notorious, and its hinterland an agricultural Eden.

Most of the qualities cited by Whipple gave atmosphere and tone to the city; only the last provided substance. New Orleans was indeed "the grand reservoir of the great West." The fundamental factor in making it an agricultural focus was the immense region that lay behind it—the Mississippi Valley. Before the days of the canal and the railroad the sole outlet of most of the valley was the natural channel provided by the Mississippi and its tributaries, and even after internal improvements yielded competing avenues, the river remained a leading thoroughfare.

Ante-bellum visitors in New Orleans as well as resident enthusiasts tried to

¹ This paper was read as the presidential address at the annual meeting of the Agricultural History Society, Washington, D. C., June 3, 1941. As the title indicates, it is restricted to a consideration of the interdependence of New Orleans and the Mississippi Valley.

² Lester B. Shippee, ed., *Bishop Whipple's Southern Diary, 1843-1844*, p. 118 (Minneapolis, 1937).

visualize the back country in figurative terms. The valley, they were told, embraced 1,200,000 square miles. From New Orleans to the highest point of navigation on the Ohio River was 2,000 miles; it was 3,000 to the farthest navigable point on the Missouri. The countless rivers that united to form the Mississippi, "the great spinal cord" of the valley, embraced 20,000 miles of navigation. Some vessels ascended fourth-degree tributaries of the Mississippi; flatboats and barges brought products from remoter regions of the interior. "It would almost seem as if every farmer or planter in the valley," observed an English traveler with customary exaggeration, "had his own land skirted by a navigable stream."³

When acclamatory mid-century writers took inventory of current status and sought to penetrate the future, their imaginations yielded more fancy than fact. A half century before, the valley had been a vast wilderness; now it supported more than ten million inhabitants. Crystal gazing produced a population of twenty-five millions by 1870, and at some none-too-distant day a hundred and fifty million agriculturists would inhabit the "Paradise" that was New Orleans' hinterland. If the city became the granary and the entrepôt for only a half or a third of the valley's trade, it was destined to become the greatest commercial emporium of the world.⁴ Always they used the same grandiloquent language, and their infectious enthusiasm promoted bombast and euphemism among tourists and sojourners. Transcendent phrases and rhetorical frills punctuated prosaic subject matter. They spoke of the "illimitable" region, its "inexhaustible" fertility, its "unparalleled" significance, its "enormous" surpluses; they paid homage to a "magnificent and bounteous" nature; they did obeisance to the "majestic" Mississippi, an "outlet magnificent in its features," commensurate with "the grandeur of the extensive region that it waters"; and invariably New Orleans was the "grand reservoir," the "great commercial emporium of the West."⁵ As early as the 1830s a few prescient penmen foretold ruinous competition from eastern rivals; not until the 1850s were their warnings heeded.

More important than idle contemplation of the magnitude of the valley and

³ Alexander Mackay, *The Western World; or, Travels in the United States in 1846-47 . . .*, 2:91 (Philadelphia, 1849); J. D. B. De Bow, *The Industrial Resources, etc., of the Southern and Western States*, 2:136-138 (New Orleans, 1852); Buckner H. Payne, "New Orleans, Her Commerce and Her Duties," *De Bow's Review*, 3:39 (January 1847), and "Contests for the Trade of the Mississippi Valley," *ibid.*, 3:100 (February 1847); J. D. B. De Bow, "The Crescent City," *ibid.*, 3:239-240 (March 1847), and "Progress of the Great West," *ibid.*, 4:36-37 (September 1847); "Western Statistics," *ibid.*, 6:62-63 (July 1848); J. G. Barnard to the Editor of the *Commercial Review*, Apr. 1, 1850, *ibid.*, 8:444 (May 1850); James H. Lanman, "Commerce of the Mississippi," *Hunt's Merchants' Magazine*, 9:154-155, 160 (August 1843); "Commerce and Resources of Louisiana," *ibid.*, 11:422 (November 1844).

⁴ This concept, clearly reflected in Mackay, *Western World*, 2:91, and in Lady Emmeline Stuart Wortley, *Travels in the United States, etc. During 1849 and 1850*, 1:240 (London, 1851), found expression in sundry articles in *De Bow's Review*. See, for example, Payne, "Contests for the Trade of the Mississippi Valley," *ibid.*, 3:100 (February 1847), and "New Orleans, Her Commerce and Her Duties," *ibid.*, 3:39 (January 1847).

⁵ Lanman, "Commerce of the Mississippi," *Hunt's Merchants' Magazine*, 9:154 (August 1843); Mackay, *Western World*, 2:89.

the adequacy of its river system were the harvests extracted from the soil. Three score products and more were brought to New Orleans warehouses. By mid-century imports from the interior were valued at more than a hundred million dollars. Of this amount the great southern staples—cotton, sugar, molasses, and tobacco—were worth seventy-two millions. If certain minor commodities be included, the southern states in the valley furnished about three-fourths of the total value of New Orleans' interior importations. The grain- and meat-producing States, mainly in the upper valley, yielded a considerable portion of the other quarter, with their bacon, pork, and lard worth thirteen and a half millions, and their corn, flour, oats, and wheat, six and a half millions. Lead and whisky each brought over a million; sundry miscellaneous items were responsible for the remainder.⁶

It was with pardonable pride that New Orleanians witnessed the agricultural surplus of the Mississippi Valley deposited in their city. The valley was a veritable cornucopia that poured its wealth at their doors. Nor could they forget that the greater part of the back country, from the Appalachians to the Rockies, had once been Louisiana. International treaties and congressional acts had despoiled the name of all but a remnant of the great valley, but nature still decreed that much of its wealth should at least pass through, and thereby enrich, the Crescent City.

Neither resident nor traveler needed statistical tables of trade and commerce to arouse a consciousness that sixty to seventy-five varieties of produce found outlet through New Orleans. Tabular data of bales of cotton, bags of feathers, barrels of corn, bundles of leather, carrots of tobacco, firkins of butter, hogsheads of sugar, kegs of lard, puncheons of rum, reels of yarn, sacks of wheat, tierces of flaxseed—all these might baffle and bewilder the unrealistic and casual reader of the *Price-Current* or *De Bow's Review*. He had only to visit the levee any time between the first of November and the last of June to find tangible evidence of the role New Orleans played in the marketing of bucolic resource. To the burgher it was no unusual sight; but to the newly arrived migrant, the planter on a first visit to his factor, or a tourist in search of health, excitement, or the means of employing his pen, the scene was a novel one. A line from a traveler of the 1840s may serve as proper incentive for the historian: "as a western buster would say 'stranger, if you want a tall walk & want to see tall sights go for an hour on the levee.'"⁷ Solon Robinson, who made an "Agricultural Tour South and West" in 1849, graphically delineated the problem that confronted the visitor: "But one might just as well undertake to show the magnitude of the ocean, and the fearful raging of the storm at sea . . . as to try to give an idea of the business upon the levee here, by a string of words and figures. It must be seen, to be believed; and even then, it will require an active mind to compre-

⁶ From statistics for the year ending Aug. 31, 1851, in *New-Orleans Price-Current, Commercial Intelligence and Merchants' Transcript*, Sept. 1, 1851. These were reprinted in De Bow, *Industrial Resources*, 2:147.

⁷ Shippee, *Bishop Whipple's Southern Diary*, 96.

hend acres of cotton bales standing upon the levee." He spoke of "whole fields of sugar hogsheads" and a score of other agricultural commodities, and then, as if frustrated at particularization, lumped together "every other conceivable thing that ever grew out of the earth."⁸

The levee no longer affords the same opportunities for a "tall walk" or for "tall sights," but the historian may explore contemporary writings and in his mind's eye witness the scenes that impressed ante-bellum travelers. The first impression did violence to his geographic sense, for he discovered that the Mississippi lay to the east of the city, and that its current moved in a northerly direction, occasioned by its crescent-like course. On this amphitheatric curvature lay New Orleans. From one of its horns to the other, watercraft of every description formed a picturesque panorama. There were keelboats and barges; flatboats and square-rigged vessels; "scores of steamers, built in the most fantastic manner, and painted of the most gaudy colours"; brigs, schooners, and sloops for the coastwise trade; ferryboats and tugboats for trans-river communication with Algiers on the opposite bank; and "handsome steam-vessels, moving hotels of two stories, with elegant saloons, carpeted floors, mirrored and gilt walls, and comfortable sleeping-berths."⁹ If a travel account may be believed, "one steamer has hardly arrived before you hear in the distance the hoarse cough of another of these floating houses loaded with produce & teeming with busy restless mortals."¹⁰

Of great interest to levee visitors was the arrival of steamboats laden with cotton. Such a boat had "the appearance of a moving mass of Cotton bales." With holds filled to capacity and bales stacked eight or ten tiers high on deck, only the wheelhouses were visible. Travelers who had been impressed with the leisurely way of work on the southern plantation were startled at the rapidity with which cargoes were unloaded and upriver freight stored on board. Some 2,200 bales were removed from the *Concordia* in eight hours, the return cargo was loaded, and the boat departed within twenty-six hours after arrival. The *Henry Clay* was in port from Thursday afternoon until Sunday morning; on Friday and Saturday 1,400 tons of freight were "landed and shipped," the boat was renovated and supplied for the return trip, and a hundred cabin passengers were booked; "nor was this considered as being anything extraordinary." A contemporary recorded that while a portion of a crew moored a freighter to the wharf, the other had already begun to unload the cotton. Dispatch was neces-

⁸ Herbert Anthony Kellar, ed., *Solon Robinson; Pioneer and Agriculturist*, 2:169-170 (Indianapolis, 1936).

⁹ J. E. Alexander, *Transatlantic Sketches, Comprising Visits to the Most Interesting Scenes in North and South America, and the West Indies . . .*, 2:15-16 (London, 1833); *Daily Picayune* (New Orleans), Feb. 24, 1843; "Commerce and Resources of Louisiana," *Hunt's Merchants' Magazine*, 11:422 (November 1844); De Bow, *Industrial Resources*, 2:145, 149; Payne, "New Orleans, Her Commerce and Her Duties," *De Bow's Review*, 3:41 (January 1847).

¹⁰ Shippee, *Bishop Whipple's Southern Diary*, 118.

sary, he explained, because the business season was confined to a period of eight months, with concentration in six of them.¹¹

The wharves and quays outside the levee, as well as the levee itself, were piled high with "pyramids" of cotton bales, "mountains" of grain sacks, and "towers" of barrels and hogsheads. Freight from the interior arrived in such quantities during the business season that constant accumulation taxed the capacity of both levee and quays. The city council provided huge tarpaulins to protect "the acres of such things as the weather damage"; but in spite of this precaution nocturnal dampness—to say nothing of rain—injured bagging, bale rope, hemp, corn, oats, rye, and wheat. Packages and barrels were much soiled by rolling them in the mud, despite the fact that the council periodically spread shells upon the levee.¹² Armed watchmen were provided by merchant consignees to protect goods from Negroes and other loiterers.¹³

While the materialistic appeal was strong, some observers sought to penetrate the human equation on the levee. If one wanted a cross section of society, he could find it there. From the vantage point of a steamer's upper deck, Whipple studied the milling multitude. He saw "Negroes of all shades from the Guinea black to the pale sickly looking quadroon, aristocratic niggers with gold chains & satin vests and working niggers, fat laughing niggers and thin sallow faced negroes who look as solemn as if they never smiled. Old men and young men, hoosiers, pukes, buckeyes, crackers, greenies, busters and other varieties of civilization . . . exhibited in all the eccentricities of their individual character." He contrasted the "bustling auctioneer" with "cracked voice" and the "sedate business man who ever keeps on the calm & quiet side of business & gets his fortune by patience & industry." There were loafers of every variety, with "tattered dress," "rimless hats," and "unshaven beard," lounging on whisky barrels and cotton bales. Representatives of innumerable nationalities were there, "each jabbering away in his native tongue like so many monkeys."¹⁴ Irishmen and Negroes predominated, for they were employed in loading and unloading cargoes. Alexander Mackay saw a parallel between "the vast accumulation of merchandise" and "The busy throng of people."¹⁵ As an editor of the *Picayune* put it, there were "Merchants and merchants' clerks, masters of ships and captains of boats, weighers and measurers and guagers [*sic*], all sorts of inspectors and stevedores and day laborers, sailors and dock-walloppers—there is no end to the variety you meet, all hurrying to and fro with bustling

¹¹ William L. Hodge, "New Orleans; Its Present Situation and Future Prospects," *De Bow's Review*, 2:57-58 (July 1846).

¹² Payne, "New Orleans, Her Commerce and Her Duties," *De Bow's Review*, 3:44-45 (January 1847); J. Milton Mackie, *From Cape Cod to Dixie and the Tropics*, 156 (New York, 1864); *Daily Picayune*, Feb. 24, 1843.

¹³ "Impressions of New Orleans by a Foreigner [Charles Hooton, an Englishman]," *De Bow's Review*, 4:556 (December 1847); Kellar, *Solon Robinson*, 2:170.

¹⁴ Shippee, *Bishop Whipple's Southern Diary*, 95-96. See also, Charles Vignoles, *Observations upon the Floridas*, 122-123 (New York, 1823).

¹⁵ Mackay, *Western World*, 2:80.

airs, or lazily rolling about cotton bales, hoisting out molasses, assorting whiskey or 'toting off lard.'"¹⁶

New Orleans was, as contemporaries said, "the city of Cotton." Whether on the river or levee, in streets, cotton presses, or warehouses, it was always visible. Lady Wortley found the levee "literally strewn with little lumps of it . . . as if it had been snowing in large flakes." She could see from her window, almost any time of the day, "cotton in vast quantities, carried through the streets in rather awkward-looking carts or drays."¹⁷ Robinson reported that "miles of drays" were "constantly" hauling it to the presses.¹⁸ "Streets are piled in every direction with mounds of cotton, which rise as high as the roofs," said Captain Henry A. Murray in the 1850s; "storehouses are bursting with bales; steam and hydraulic presses hiss in your ear at every tenth step."¹⁹ Little wonder that a wag used the fleecy staple as basis for a pun at a celebration commemorating Jackson's victory at New Orleans. He toasted "The Ladies—Who, reversing the order of old Hickory's defense, place the cotton bags in the rear." An editor replied that "he's mistaken if the ladies don't make a *bustle* when they read this toast."²⁰

Of the dozens of functionaries who contributed to New Orleans' status as an agricultural focus, three deserve special attention. The cotton planter, the commission merchant, and the professional slave trader were inseparably associated in the exploitation of agricultural resources in the ante-bellum South. The business of all three was so interdependent that one could not operate successfully without the existence of the other two. The planter engaged in

¹⁶ *Daily Picayune*, Feb. 24, 1843. See also, Mackay, *Western World*, 2:80.

¹⁷ Wortley, *Travels in the United States*, 1:231, 233.

¹⁸ Kellar, *Solon Robinson*, 2:169. According to Shippee, *Bishop Whipple's Southern Diary*, 95, more than 4,000 drays found "steady and constant employ[ment]." The *Daily Picayune*, Feb. 24, 1843, in an article entitled "A Walk on the Levee," graphically pictured drays and teams as follows: "An innumerable number of carts and drays are careering along, drawn sometimes by a tandem team of mules, sometimes by a tandem of horses; and perhaps you will find the two animals driven together, with a horse on the lead. Then again there is the Long Island spike team, and the most common of all is the spike team reversed, one animal being in the shafts and two abreast on the lead. All these varieties are urged along by merry 'gee up and gee ohs,' and the yet more ominous 'cracking' of a negro's whip, a sound which your ebony-faced Jehu alone knows how to elicit in its perfection; . . . And the pace they go under such rousing, especially when returning for a load, is such as Northern cartmen would not dare hazard."

¹⁹ Henry A. Murray, *Lands of the Slave and the Free: or, Cuba, the United States, and Canada*, 139 (London, 1857). See also, Timothy Flint, *The History and Geography of the Mississippi Valley . . .*, 1:269 (ed. 3, Cincinnati, 1833).

²⁰ *Daily Picayune*, Jan. 23, 1843. An unidentified issue of the *Picayune* quoted the *New Orleans Bee* as follows: "'Major Kelly, of the 'Chronicle,' says that the steamboat 'Luda' is like a fashionable lady, because she carries so much cotton aft.'"

"'This is a most ungallant attack upon bustles. Now we like bustles. In this age of trashy literature and sentimental nonsense, bustles are decidedly an improvement. They are in fact tales founded upon facts.'"—*New York Spirit of the Times; A Chronicle of the Turf, Field Sports, Literature and the Stage*, 13(9):105 (Apr. 29, 1843).

large-scale agriculture; he depended upon the slave trader to provide Negro laborers to cultivate his expanding acres; and he relied upon the factor to market his crops, to furnish plantation supplies, and to supply credit. Without the planter the country business of the commission houses would have been of minor significance. Insofar as the slave trader was responsible for the presence of Negroes in any region, he contributed an element that produced a great deal of the raw material shipped to the factor and consumed much of the goods provided for plantation use. Credit with factorage firms enabled the planter to purchase slaves; not infrequently he paid for them with promissory notes drawn upon urban countinghouses.

New Orleans was the great slave market of the Southwest. Literally hundreds of traders engaged in the traffic there in the generation preceding the Civil War; its volume outdistanced that of Richmond and Charleston combined. There was less odium attached to the trade than in any other city of the South. From the medley of miscellany that made New Orleans cosmopolitan emanated an atmosphere of toleration that accorded the free Negro an unusual status, condoned slavery and the slave trade, and accepted the professional dealer as an integral part of a composite society.

Ante-bellum travelers who visited the Crescent City were impressed with public auctions which thrived on Baronne, Common, Esplanade, Gravier, Magazine, and other streets. At the St. Charles and St. Louis hotels in particular, the exchanges presented novel scenes to the curious visitor. Professional auctioneers alternated French and English and combined wit and salesmanship in a constant flow of verbiage as they sold field hands and "fancy girls," carpenters and coopers, coachmen and cooks, to the highest bidders. Less picturesque but quite as important were the daily transactions in the slavepens of established vendors. At the sound of bell or other signal, the males and females, a few of the latter with babes in arms, speedily formed into two lines according to height. The trader or attendant politely inquired what type of slave the customer desired, and made his recommendations accordingly. Age, sex, skill, and physical and mental qualities were factors in determining the price, although haggling occasionally resulted in reduction for buyers who drove a hard bargain. The agreement reached, the purchaser put cash on the line or arranged credit with proper security, the sale was notarized, and the buyer departed with his property. Thousands of slaves were thus annually conveyed to planters and farmers, householders and merchants.²¹

Planters of the lower valley and interior merchants, too, visited New Orleans periodically to attend their business interests and to enjoy social diversions in the southern metropolis. "There is no distinguished merchant, planter, or farmer in the Mississippi valley," wrote Timothy Flint, "but what has made

²¹ The material in the last three paragraphs is treated at length in Wendell Holmes Stephenson, *Isaac Franklin; Slave Trader and Planter of the Old South* (University, La., 1938).

at least one trip to this place. Here they witness acting at the French and American theatres. Here they go to inspect, if not to take part in the pursuits of the 'roulette, and temple of fortune.' Here they come from the remote and isolated points of the west, to see the 'city lions,' and learn the ways of men in great towns."²² Flint, who was looking at the problem through the eyes of a moralist, might have added that the upriver agriculturist visited the French quarter and, if unencumbered by his wife, attended a quadrone ball as observer if not as participant. But whether alone or accompanied by his family, the farmer often combined business and pleasure. A single example of one who concentrated on business to an unusual degree must suffice.

In the spring of 1853, Horace Adams, an Arkansas planter, journeyed to New Orleans to sell his cotton, finance his ensuing crop, and purchase supplies. His first day in the city was spent in discussing his "accounts and business" with his factors, Cherry Henderson and Company, and in walking "to various points in the City to ascertain where I should deal, learn prices, [and] see what changes had taken place since I used to visit the City." The next day he "enjoyed the fish lettuce & oysters exceedingly," purchased "some small articles for family use," and "was introduced by my friend Henderson to some wholesale houses, in view of purchasing." Sunday was spent at the market place and the Cathedral, and in touring the city. On Monday, Adams bought \$200 worth of groceries and meat and \$120 worth of dry goods. He "also obtained a letter of credit or authority to draw on them [his factors] for \$800. on the faith of the next crop." He packed his purchases on Tuesday, sent them to the *Cora*, drew \$75 from Henderson, and departed for Arkansas "in fine spirits" despite the fact that his twenty-eight bales of cotton were still unsold. His passage each way had cost him \$8, his board bill \$6.50, and freight on his merchandise \$18.50.²³

The merchants of New Orleans, be they factors or shopkeepers, did not limit their labors to regular hours. There was no respite even on Sunday. On that day, said Harriet Martineau, "Merchants are seen hastening to the counting-house or the wharf, or busy in the stores."²⁴ Their resort in the evening, according to Captain J. E. Alexander, was the "coffee-house, with a sanded floor, and some indelicate pictures on the walls. Here, after sun down, the merchants . . . congregated to talk of cotton and sugar, new banks, speculations in canals

²² Flint, *History and Geography of the Mississippi Valley*, 1:270.

In New Orleans, Tyrone Power, *Impressions of America; During the Years 1833, 1834, and 1835*, 2:110-111 (Philadelphia, 1836), found "decidedly the most elegant-looking auditory of this country." He continued: "For myself I found them [auditors] in manner equal to their appearance; a greater degree of repose and gentility of demeanour I never remember to have noticed in any mixed assembly of any place. So much for report, which informed me I should find the American house here filled by noisy planters from the up-country and boisterous Mississippi boatmen."

²³ Horace Adams, ed., "Arkansas Traveler, 1852-1853: Diary of John W. Brown," *Journal of Southern History*, 3:382-383 (August 1938).

²⁴ Harriet Martineau, *Retrospect of Western Travel*, 1:257 (London and New York, 1838).

and rail-roads, and, above all, of elections. Most of them wore striped jackets, cocked their hats on one side with an air of defiance, and swung a sword-stick between their extended legs."²⁵

Perhaps Alexander's picture, at least insofar as it applied to commission merchants, was too unfavorable, for planters found them intimate business associates.²⁶ Frequently, the merchants were entertained at the plantation homes, and when the planter visited New Orleans, the factor not only attended to his business needs, but often felt responsible for his social entertainment as well. Of course the factor discriminated among his clients, if he expected to remain in business. He knew the planter's standing in his community, the extent of his real estate, the number of slaves he possessed, the encumbrances on his property, and his prospects for a good crop. Large advances were frequently made without conventional security; whether with or without collateral or endorsement, factors rendered an important banking service. The money thus advanced provisioned the plantation until the crop was harvested and often yielded a residue for improvements and slave purchases. The planter not only paid a high rate of interest on advances; he also paid credit prices for his purchases which were considerably higher than cash prices.

The factorage business in New Orleans attained large proportions by mid-century.²⁷ More than three hundred factors advertised their services along with brokers and firms not distinguished as commission merchants but some of whom undoubtedly engaged in factorage activities.²⁸ A planter with broad acres and many slaves might deal with two or three or even more commission merchants at the same time. Their records reveal their business relationships. The planter wrote of his shipments of staples, ordered plantation supplies, explained his failures to meet financial obligations; the factor reported the produce he marketed, forwarded itemized statements of goods purchased for plantation use, and paraded the difficulties he experienced in rendering efficient service.

Their correspondence also reveals their intimate, personal relationships. As the prosperity of both agriculturist and commission merchant depended upon the state of the weather, the prospects for crops, the condition of the market, and the status of the rivers, these matters bulked large in their letters. "Our market is very dull, every thing looks gloomy," a factor wrote to a Louisiana client.²⁹ "Our Cotton market is brisk," a commission merchant informed a

²⁵ Alexander, *Transatlantic Sketches*, 2:16-17.

²⁶ Such a factor was Harry R. W. Hill who deserves biographical treatment. For a brief sketch of his career, see *Cohen's New Orleans Directory . . . for 1853*, p. xxi-xxiv (New Orleans, 1852).

²⁷ For an excellent "description of the classes engaged in the Cotton trade between the planter and the English speculator or manufacturer," see "Cotton Factors and Commission Merchants," in *The Soil of the South*, 3:676-677 (October 1853).

²⁸ See, for example, *New-Orleans Price-Current, Commercial Intelligencer and Merchants' Transcript*, *passim*.

²⁹ John Hall to F. W. Weeks and Company, June 6, 1849, in Weeks (David, and Family) Collection, in the Louisiana State University Department of Archives, Baton Rouge.

Red River planter, "but the continued low water cuts off our supplies from all the small streams and we almost despair of getting any thing from them this Season—Money is still too tight."³⁰ Too much rain was as bad as too little: "We still have rain every day. I fear much damage will be done the crops, every thing is miserably dull here and accounts from the north as regards produce [are] very gloomy."³¹ Still another complained that he had nothing "encouraging to say—Trade generally is very dull and times may be considered unpropitious both to the Planter & the Merchant. The former receives little or no remuneration for his labor & hence the latter if he has granted many facilities must expect to lose by bad debts."³² It is apparent that hard times during most of the 1840s prompted a reiteration of the adjectives "dull," "depressed," "gloomy," and "tight," and make contemporary correspondence read like a book of lamentations. The last decade of the ante-bellum period brought considerable prosperity, and frequent notes of ameliorism and even optimism were substituted for monotonous pessimism.

Commission merchants and planters talked of other things than water, weather, wails, and wallets, however. Factors inquired into the status of health on the plantation, forwarded the latest social gossip, and informed planters of recent political developments. "I Sent you a paper by Steamer W. C. Young this evening," wrote a busy merchant, "to inform you of the great event of the day Lexington beat the fastest time in America, he . . . made his four miles in 7 min 18 $\frac{3}{4}$ Seconds." But the factor himself did not see the race: "I have my hands full all the time. . . . I am in a race all the day to get through."³³ What did the commission merchant read in his letters from upriver countrymen other than business routine? A Mississippi horticulturist wrote to his factor: "I send you a barrel of fine sweet potatoes for the little folks, which please accept."³⁴ Again, a short time before Christmas, after ordering "*without fail*" such items as sugar, rice, oranges, lemons, almonds, pecans, and "a large can of say 600 *choice, large, fat* oysters", he added, "And then, friend Carroll, put *yourself* on the boat, & come up here & help us to eat them on Thursday, (tomorrow week)."³⁵

Upriver planters might visit New Orleans occasionally to purchase slaves, arrange for extension of credit, contact city merchants, or witness the disposition of their produce. They were not out of touch with the agricultural focus, however, even though their trips to the Crescent City were infrequent. In addition to voluminous correspondence between planter and factor, newspapers

³⁰ Cox, Gillis and Boyd to St. John R. Liddell, Apr. 3, 1855, in Liddell (St. John R., and Family) Collection, in Louisiana State University Department of Archives.

³¹ Hall to Weeks, June 28, 1848, in Weeks (David, and Family) Collection.

³² Adams Mitall to John Moore, Jan. 8, 1845, in Weeks (David, and Family) Collection.

³³ M. Gillis to Liddell, Apr. 3, 1855, in Liddell (St. John R., and Family) Collection.

³⁴ Thomas Affleck to D. R. Carroll, Feb. 15, 1854, in Affleck (Thomas) Collection, in Louisiana State University Department of Archives.

³⁵ Affleck to Carroll, Pritchard and Company, Dec. 13, 1854, in Affleck (Thomas) Collection.

and periodicals supplied agrarians with commercial intelligence on the status of the market, predicted the season's prospects, and counseled the farmer on improved methods of production. Among New Orleans publications that circulated widely in the Mississippi Valley—particularly the lower part of it—were *De Bow's Review*, the *Price-Current*, the *Picayune*, the *Commercial Times*, the *Commercial Bulletin*, and sundry other newspapers.

The *Commercial Review of the South and West*, edited by James D. B. De Bow and popularly known as *De Bow's Review*, was an indispensable handbook and guide for the progressive agriculturist as well as the commission merchant and banker.³⁶ Its circulation can only be approximated, but it is quite possible that it reached 2,500 by the end of the ante-bellum period.³⁷ While subscribers were scattered from Maine to California, interest in it was largely confined to the Lower South, with Louisiana, Alabama, Mississippi, Georgia, Texas, and South Carolina ranking in the order named. The *Review* circulated in appreciable numbers in Arkansas, Missouri, Kentucky, and Tennessee, and there were a few readers in the upper portion of the valley. Beyond the Lower South, Virginia stood first on the list. New York and Philadelphia merchants and bankers also found it useful.

De Bow was a Charlestonian with a merchant as paternal ancestor, early experience in a grocery store, training at Cokesbury Institute and the College of Charleston, a penchant for statistics and an active interest in economics, and marked ability as an effective writer and analyst. The inspiration for his great work came while he was attending the Memphis Railroad Convention in 1845; its presiding officer, John C. Calhoun, made an indelible impression upon his youthful mind. Conception was immediately translated into action: in January 1846, the twenty-six-year-old editor issued the first number of his *Commercial Review*. It is significant that the word *Agriculture* appeared in the subtitle.³⁸ De Bow advocated a more balanced economy for the South—a diversified agriculture and an industrial revolution, integrated by internal improvements and commercial advancement. That he hoped agriculture would retain its dominant position is evidenced in the early volumes of his magazine. "We do well to encourage agriculture by every legitimate and proper means,"

³⁶ For a checklist of De Bow's writings and a detailed bibliography of the *Review*, see James A. McMillen, comp., *The Works of James D. B. De Bow* . . . (Hattiesburg, Miss., 1940). Biographical material is available in W. D. Weatherford, *James Dunwoody Brownson De Bow* (*Southern Sketches* 3, Charlottesville, Va., Historical Publishing Co., 1935).

³⁷ De Bow used the back-cover pages of the *Review* to list "Receipts" or "Payments" for each month. It is from these that the above approximation is reached. The circulation of the magazine was not listed under "Newspapers and Periodicals" in the MS. Census Returns for 1860, Schedule 6, Social Statistics. The Louisiana Returns are deposited in the Duke University Library; the writer is indebted to Dr. Nannie M. Tilley for data from them on New Orleans publications.

³⁸ *A Monthly Journal of Trade, Commerce, Commercial Policy, Agriculture, Manufactures, Internal Improvements, and General Literature*. There were frequent changes in title and subtitle.

he wrote. "It is the right arm of our country. All its commerce, and its manufactures, and other industry together, are but as an item compared with this. It is emphatically *the* great creator of national wealth. Nature in presenting to us our vast, fertile and almost illimitable territories, has made us a nation of agriculturists. The character is a high one too. It has been revered in every age."³⁹ And again: "agriculture and agricultural improvements make the only *permanent* additions to a country's greatness, or provide for all the contingencies of the future."⁴⁰

Almost every issue of the *Review* carried one or more special agricultural articles; and all but a few included a "Department of Agriculture" or an "Agricultural and Horticultural Journal." These kept farmers abreast of recent developments in both scientific and practical agriculture, counseled them on the raising of livestock, southern staples, western produce, fruits, and vegetables; discussed the transporting and marketing of farm products; and provided a medium for the exchange of ideas. Many of the best articles were contributed by De Bow himself. In assembling data, he used the questionnaire effectively. Early in 1846, he mailed printed circulars to "scientific & practical planters," seeking their "experience" on thirty-six questions pertaining to all phases of cotton culture.⁴¹

While *De Bow's Review* was widely read by planters, merchants, and bankers, in many respects the *Price-Current* was of more immediate, and perhaps more tangible, value. When the census enumerator sought circulation data in 1860, the facts were "Indignantly refused."⁴² Beginning publication in 1823, it was for many years a weekly paper issued on Saturday morning. By the 1840s it had become a semiweekly with Wednesday and Saturday editions, and with a larger format. Its first page was given over invariably to business cards, with more than three hundred factors and merchants advertising their establishments. Every issue itemized interior imports since the opening of the commercial year, compared with the amount for the entire previous season. Thus, one could see at a glance all the products of the valley that found an outlet through the New Orleans market. The wholesale prices current of these commodities were also arranged in tabular form, and the New Orleans money market, corrected semiweekly, was analyzed in each issue. Two or three columns of "Remarks on the Market" summarized developments and trends in the great southern staples and western produce. It is clear that the *Price-Current* did not make entertaining reading, for editorials, political news, and international relations

³⁹ "American Legislation, Science, Art and Agriculture," *De Bow's Review*, 2:115 (September 1846).

⁴⁰ "Some Remarks on Agriculture and Our Agricultural Products," *ibid.*, 9:383 (October 1850).

⁴¹ A copy of the printed "Circular," dated Apr. 10, 1846, addressed to Affleck, June 14, 1846, is available in the Affleck (Thomas) Collection.

⁴² MS. Census Returns for 1860, Schedule 6, Social Statistics—Third Representative Ward of New Orleans in county of Orleans, La., for the year ending June 1, 1860.

were not paraded on its pages, but the farmer and the factor scanned them with interest for the information they yielded spelled profit or ruin to both.⁴³

Of the orthodox New Orleans newspapers, perhaps the *Picayune* best served the countrymen in the lower valley. The weekly issue, designed especially for rural folk, had 5,600 subscribers at the close of the ante-bellum period.⁴⁴ A "Commercial Review" column embraced brief statements of western produce and southern staples, and a few factors and merchants advertised their services and wares. In 1850 an agricultural news section, designed to ingratiate the weekly edition in the affections of country readers, was added. The new department, it was announced, would embrace "original contributions from pens of authority in agricultural science and statistics." In "the absence of an agricultural journal in the Southwest" the paper's columns had, "with a far-sighted and liberal policy, been thrown open to the planting community for the discussion of agricultural and horticultural matters."⁴⁵

For several months the department consisted mainly of clippings from agricultural and horticultural journals, newspapers, and reports of the Patent Office. It is doubtful if scissors and paste pot provided a great deal of tangible benefit to planters and farmers of the lower valley. There were valuable articles, it is true, on subjects like "Improvement of Domestic Animals," "Ravages of Insects," and "Analysis of Soils, Marls, and Fertilizers"; but there was also much trivial rubbish, such as "How a Woman Got Along on Beans," "Husbandry and Housewifery," and "Breaking Milking Cows," the last being a discussion of the proper way to "discipline young cows, who have calves for the first time."⁴⁶ The department was vitalized toward the close of the year by the appointment of Thomas Affleck as agricultural editor. He had been contributing occasional articles, and his wise counsel and practical advice had apparently attracted the favorable attention of the proprietors. He too employed paste pot and scissors, but for the most part his selections were more discriminating, and he digested significant portions of articles and made critical comments thereon. As proprietor of the Southern Nurseries at Washington, Mississippi, he had experimented with fruits for many years. His horticultural articles were, therefore, of unusual import, for he knew whereof he wrote in recommending what varieties of apples, peaches, pears, and grapes could be successfully grown in the South.⁴⁷ With historical acumen he ran a series of articles on "Early Days of Cotton-

⁴³ Factors could purchase a cheap edition of the *Price-Current*, "ready wrapped for mailing, at fifty cents per dozen." *New-Orleans Price-Current, Commercial Intelligencer and Merchants' Transcript*, Sept. 13, 1845. Its "Letter Sheet," stationery with price-current tabulations on the first page of the folder, was advantageously used by commission merchants in corresponding with clients. A copy of the May 19, 1855 issue is available in the Liddell (St. John R.) Collection.

⁴⁴ MS. Census Returns for 1860, Schedule 6, Social Statistics—Third Representative Ward of New Orleans in county of Orleans, La., for the year ending June 1, 1860.

⁴⁵ *Weekly Picayune*, May 20, 1850.

⁴⁶ *Ibid.*, May 27, June 17, July 8, Oct. 14, 1850.

⁴⁷ See his articles on "Fruit Culture in the South," *ibid.*, Dec. 9, 30, 1850.

Growing in the Southwest."⁴⁸ When the Texas fever became contagious, he began a series on emigration to the Lone Star State. "The period has long passed," he wrote, "when G. T. T. (gone to Texas) was considered as equivalent to an announcement of bankruptcy, rascality or worthlessness on the part of the fugitive," and then proceeded to review the advantages of migrating there.⁴⁹ He also took up the cudgels for cotton growers in their efforts to market their crops in New Orleans to better advantage.⁵⁰

Perhaps no agriculturist in the Southwest wielded more influence than Affleck in directing plantation economy into scientific and systematic channels. Throughout much of the late forties and the fifties, he utilized a sympathetic New Orleans publisher, B. M. Norman, to print and distribute the provender from his prolific pen. His *Southern Rural Almanac and Plantation and Garden Calendar* (1851-1868) reached an average circulation of thirty thousand in the 1850s. The *Cotton Plantation Record and Account Book*, widely used in the lower Mississippi Valley but with some circulation over the entire Cotton Kingdom, commanded three thousand purchasers by the end of the last ante-bellum decade. It gave planters opportunity to record daily routine, inventory slaves, stock, and implements, list purchases of plantation supplies and crops marketed, and ascertain profit or loss. The *Sugar Plantation Record and Account Book* served "Sugar Bowl" planters in like manner. "A prominent New Orleans factor gratified me not a little recently," Affleck wrote, "by remarking that he has little hesitation in advancing to or accepting for a Planter who kept his Plantation Record and Account Book correctly."⁵¹

These and other publications of interest to farmers and merchants found ready sponsorship in New Orleans. It was generally conceded that publishers had both a duty to perform and an opportunity to embrace. However that may be, a farm journal was never published there, nor was there any significant agricultural periodical south of Tennessee or west of Alabama. Affleck and other reformers sought in vain to establish an agricultural organ in New Orleans, urging in particular that it would aid farmers and planters in the marketing of their crops.

Despite this deficiency, New Orleans was a unifying economic influence in the valley. Relations between its merchants and slave traders and upriver planters and farmers obliterated State boundary lines and delineated a region of economic dependence. It was inevitable that eastern businessmen would compete for supremacy; if the city fathers had awakened earlier to the danger of strong competition, they could have retained a larger share of the fruits of the valley than they did.

⁴⁸ *Ibid.*, 1851, *passim*.

⁴⁹ *Ibid.*, Mar. 24, 1851, *et seq.*

⁵⁰ *Ibid.*, July 15, Sept. 30, Oct. 21, 1850; Apr. 21, 1851.

⁵¹ *Southern Cultivator*, 13:75-76 (March 1855). Several volumes of Affleck's *Cotton Plantation Record and Account Book* for the 1850s, kept by Eli J. Capell of Amite County, Mississippi, are preserved in the Capell (Eli J.) Collection, in Louisiana State University Department of Archives. The Capell records have been analyzed in Wendell Holmes Stephenson, "A Quarter-Century of a Mississippi Plantation: Eli J. Capell of 'Pleasant Hill,'" *Mississippi Valley Historical Review*, 23:355-374 (December 1936).

PRE-WAR NAZI AGRARIAN POLICY

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As early as 1920 leaders of the Nazi Party indicated the possible future of German agricultural policy should they secure control of the Government. Article 17 of the now famous twenty-five points which were drawn up in 1920 by Gottfried Feder set forth in general outline the minimum demands for which Nazi agrarian reformists agitated. The article reads: "We demand land reform suitable to our national requirements, passage of a law for confiscation without compensation of land for communal purposes, abolition of interest on land loans and prohibition of land speculation."¹ This article was subjected to a great deal of criticism and in April 1928 Adolf Hitler saw need to explain that "confiscation without compensation" would apply only to such lands as had been acquired illegally or were not being administered in accordance with the common good of the people. He explained further that this confiscatory action would be taken first against Jewish companies speculating in land.² The phrase "confiscation without compensation" was still further diluted in July 1933 when the *Reichsbauernführer*, Dr. Walther Darré, stated that the indebted large estates would not be touched. He said, "If they do not offer themselves voluntarily for peasant settlement they will be left alone, in full recognition of the principle of private enterprise."³

The Nazis did not undertake to organize a campaign among the agricultural population until March 1930 when Darré was set to the task of organizing the peasantry in the interest of the Party. When, and if, an analysis of district returns in the general elections of 1930 and 1932 is made, it may very well be discovered that Darré's activity among the peasantry was an important factor in placing Hitler upon the threshold of dictatorial power.

The farmers as a class had abundant reason to be dissatisfied. The agricultural income in 1932-33 was the lowest since 1913; it was one billion RM. below the worst post-war year, 1924-25.⁴ Wages and internal costs fell, but these reductions even when made under emergency decrees did not suffice to offset the great decline in agricultural prices. The total selling receipts of agricultural products dropped from 10 billion RM. in 1928 to 6½ billion RM. in 1932. The

¹ Gottfried Feder, *Das Programm der N.S.D.A.P. und seine Weltanschaulichen Grundgedanken*, 16-17 (München, 1937).

² *Ibid.*, 7.

³ Celia Strachey and John Gustav Werner, *Fascist Germany Explains*, 95 (New York, 1936).

⁴ Robert A. Brady, *The Spirit and Structure of German Fascism*, 234 (New York, 1937).

farmers' plight was as nothing, however, compared to that of owners of livestock. While prices of fodder fell 33.3 percent, meat prices dropped 50 percent.⁵

Added to the drop in the prices of practically all agricultural commodities from 1930 to 1933 was the fact that German farmers were paying such high interest that the Government intervened in 1932 and set a compulsory reduction of 2 percent on mortgages, subject to a minimum rate of 4 percent.⁶ This gives some idea of the desperate plight of German agriculture in the years immediately preceding the Nazi succession.

On January 30, 1933, Hitler took office as chancellor of a coalition ministry with the Nationalist, Alfred Hugenberg, as his Minister of Economics and Agriculture. The immediate effect on agricultural policy of the Hitler-Hugenberg combination was a heavy increase in import duties on livestock and fodder, a reduction of feed prices for poultry raisers, and a prolongation of the moratorium on foreclosures.⁷ There was little new in these measures; they were essentially an intensification of the agrarian policy developed under previous cabinets. The National Socialist "battle of agricultural production" did not really begin until the spring of 1933.

When the Nationalist party was dissolved in the early summer of 1933, Hugenberg's resignation from the headship of the Ministry of Economics and Agriculture followed as a matter of course. The old ministry was divided into two: the Ministry of Economics under Dr. Kurt Schmitt, who was succeeded on August 2, 1934 by Dr. Hjalmar Schacht, and the Ministry of Agriculture under Darré. The latter's position was not secured without a struggle. The radical wing of the Nazi Party fought vigorously for wholesale expropriation of the large estates and the subsequent establishment of numerous small farms. The more conservative Nazi agrarian experts under Darré's leadership preferred to proceed cautiously and to establish in regions outside those occupied by the large estates farms of such size as to provide each farmer and his family with a relatively high standard of living. It was to this latter group that Hitler turned, although he continued for a while to pay lip service to the aspirations of the radicals. Darré and his followers hoped that their policy would make for a maximum output of agricultural products and serve to bind the farmer indissolubly to the soil.⁸

It is difficult to say with any assurance just why the Nazi Party did not embark upon a policy of large-scale expropriations. It is possible that there was an understanding between the National Socialists and the Junkers. It is also possible that the army was influential in preventing organized efforts "to fill the East," as it regarded a densely populated countryside as unsuitable for

⁵ C. W. Guillebaud, *The Economic Recovery of Germany from 1933 to the Incorporation of Austria in 1938*, p. 28, 155 (London, 1939).

⁶ International Institute of Agriculture, *International Yearbook of Agricultural Statistics*, 1933-34, p. 690.

⁷ *Manchester Guardian Weekly*, Feb. 17, 1933.

⁸ Marie Philippi Jasny, "Some Aspects of German Agricultural Settlement," *Political Science Quarterly*, 52:215-220 (June 1937).

large-scale military operations. Probably the dominant reason was the unwillingness of Darré and his followers to have a cold, mist-covered, grain-growing countryside broken into small segments. Dr. Otto Kroeger, publisher of world sugar statistics with offices at Magdeburg, told the writer in 1937 that a break-up of the large estates in East Prussia was very unlikely since the soil and climate were unsuitable for small-scale farming.

The preliminary step in the creation of a new German peasantry was taken on September 29, 1933 when the *Reichserbhofgesetz* or Hereditary Farm Law was promulgated at the behest of the Nazi Party. This law, which in 1936 directly affected nearly one million families and about 54 percent of the cultivated acreage, classed all farms up to 125 hectares (309 acres) as hereditary. The purpose as expressed in the preamble was to distribute as evenly as possible throughout Germany a large number of small and moderately large farms which could not be mortgaged, foreclosed, divided, sold, or otherwise disposed of, except by transfer from the owner to his next succeeding male heir. It further provided that the owners of such farms should be Aryans, good farmers, and that they must give vocational training to the younger brothers of the heir at the expense of the farm. It was estimated in January 1936 that 605,416 hereditary homesteads had been created. The majority of these farms were of 19 hectares (46.9 acres) each.⁹ As important as was the *Reichserbhofgesetz* to the Nazi policy of "blood and soil" it had little meaning until supplemented by legislation for removing the disparity between agricultural and industrial price levels.

From the very beginning, the Nazi Government held that its first and fundamental task in establishing an "organic economy" was to increase the farmer's income without decreasing the consumer's purchasing power. To accomplish this purpose, it was felt that all farmers would have to submit to a system of regimentation. The steps taken by the Government to implement this policy may be discussed under four headings, namely, the control of the production and distribution of agricultural products, land settlement, land reclamation, and the Hereditary Farm Act.

The *Reichsnährstand* (Agricultural Estate), established by law on September 13, 1933, was the administrative machinery by which the Government made effective its control of farm prices and marketing regulations. This cartel-like organization compulsorily incorporated all farmers and distributors of farm products and exacted fees from them to meet the bulk of its expenses.¹⁰ Its central offices with several hundred district and local farm associations under

⁹ Great Britain, Department of Overseas Trade, "Economic Conditions in Germany to March 1936," by E. C. Donaldson Rawlins, *Report 641*, p. 50 (London, 1936), hereafter referred to as the *Rawlins Report*, and "Economic Conditions in Germany to June 1934," by J. W. F. Thelwall, *Report 582*, p. 185-186 (London, 1934), hereafter referred to as the *Thelwall Report*; Karl Brandt, "Recent Agrarian Policies in Germany, Great Britain and the United States," in *Social Research*, 3:175 (May 1936); Terramare Office, *Passing through Germany*, 43-46 (Berlin, 1936).

¹⁰ Millers, brewers, bakers, and butchers belong not only to the Agricultural Estate but also to the Estate of Handicrafts, Industry and Trade.—*Rawlins Report*, p. 39-42.

their direction were controlled by Darré who was both Reich Minister for Food and Agriculture and head of the Agricultural Estate. Party control of this administrative statutory corporation was furthered through the appointment of members to key positions in district and local associations. The chief and immediate object of this complicated machinery was to curtail the imports of foodstuffs and cattle fodder. As one writer has pointed out, Germany's dependence upon foreign sources for food supplies dropped 39 percent from 1932 to 1935. Yet in 1937, she relied on foreign sources for about 15 percent of her foodstuffs, or 25 percent, if animal feeds and fodder are included.¹¹

Imports of wheat and barley were practically eliminated after 1929. Whereas in that year Germany paid out 751 million RM. for both products, in 1936 she paid out only 7 million RM. for imports of wheat and 3 million RM. for imports of barley. To offset this decline, the area sown to wheat was increased from 1,691,818 hectares in 1930 to 2,317,500 hectares in 1933.¹²

Imports of fodder were cut even more drastically than those of wheat and barley. Reductions from 1927 to 1936 were as follows: Oil cakes, from 1,480 metric tons in 1927 to 1,079 in 1936; fish and meat meal, from 126 to 79; fodder grains, etc., from 4,079 to 246; and bran from 1,173 to 40 metric tons. Imports of legume fodders, however, increased from 23 to 62 metric tons in the same period.¹³ This curtailment apparently had a serious effect upon the raising of livestock in general and upon the production of milk in particular. Whereas in 1932 Germany's 10 million cows gave an annual average of 2,375 liters of milk, in 1935 approximately the same number yielded an average of only 2,325 liters.¹⁴ Roughly speaking, the annual production of milk was reduced by about 500 million liters from 1932 to 1935. The fodder shortage was so great that the Government intervened and set a maximum weight on all cattle for slaughter. It represented an optimum weight fixed with reference to the shortage of fodder. In order to relieve this situation chemists turned to wood pulp in the hope that they might develop a new cattle fodder, but such experiments did not produce results which encouraged commercial production. Wide use, however, was made of sugar-beet pulp which was mixed with rape weed and fish oil to make an excellent fodder. A hardship comparable with the shortage of fodder was the hoof and mouth disease from which a large number of cattle suffered after the latter part of 1937.

A description of the intricate machinery by which quotas were set and prices fixed is outside the scope of this paper, although a word or two might be said concerning grain regulations which were by far the most complete and most complicated of all. By a law of September 26, 1933 and a decree of the same

¹¹ John C. de Wilde, "The German Economic Dilemma," *Foreign Policy Reports*, Mar. 15, 1937, p. 12.

¹² Vaso Trivanovitch, *Economic Development of Germany under National Socialism* (National Industrial Conference Board, *Studies 236*), 117 (New York, 1937).

¹³ *Ibid.*, 119.

¹⁴ *Ibid.*, 118.

month, the Government undertook to assign quotas to farmers and to establish prices for their products. This system of fixed prices was extended by decree in April 1934 to include purchase prices paid by the mills. Speculation was thus abolished and the farmer assured a fairly high return on his labor. Although grain prices in Germany rose during the five years ending in 1936, bread prices kept stable.¹⁵ In brief, the farmer was told what he should grow and how much he would receive for it; the miller was told how much grain he could take at the mill, how much he should pay for it, and the price of his processed product was dictated; and finally, the baker was assigned fixed prices for his raw ingredients as well as his finished product. It would appear from this that not only agriculture but all businesses which dealt in agricultural products were pulled out of the capitalist system. In such a system it is obvious that every miller, brewer, and baker was little more than a servant of a state in which bankruptcy must have been practically unknown. It is interesting to notice how every age—ancient, medieval, and modern—returns to the control of the production and sale of food.

The Nazi land-settlement policy, the legal basis of which rested on the Reich Settlement Law of 1919, aimed at the creation of a relatively large number of fair-sized peasant holdings—15 to 45 acres in extent—interspersed with a few large estates. It was felt that peasant farming would not only produce a higher birth rate and greater productivity but also would create a new landed aristocracy. That the Government did much in this direction may be noted in the previously discussed Heredity Farm Law. Of lesser importance, yet of mentionable significance, were the "sustenance homesteads" or garden allotments. Families living on the outskirts of large cities were given $\frac{1}{4}$ to $1\frac{1}{4}$ acres of arable land upon which to raise their own sustenance. The owner paid an annual interest and sinking fund charge on the value of the land—usually \$60 per year. In 1935, one investigator estimated that 80,000 such allotments had been made. A year later an estimate by another writer placed the number of such holdings at 1,000,000.¹⁶ There was nothing new in all of this. German towns had been encircled with allotments in the 1920s; it was an intensification of a long-standing policy.

So far as Germany proper was concerned, further land settlement had to depend largely upon reclamation. Of Germany's 116 million acres, 103 million were productive; 71.01 million were under agricultural exploitation, while 31.98 million were occupied by forests. There were roughly 5 million acres of waste and moor lands, one-third of which it was estimated could be made cultivable.

The acreage of land annually reclaimed rose from 192,600 acres in 1932 and 1,111,500 in 1933 to 1,570,900 in 1934, falling to 755,800 acres in 1935. The corresponding expenditures in RM. were 42,270,382, and 214 millions.¹⁷ At the above rate, it cost approximately 283 RM. to create 1 acre of new land in

¹⁵ Rawlins Report, 37, 44; *Manchester Guardian Weekly*, Oct. 28, 1934.

¹⁶ Rawlins Report, 52; *Passing through Germany*, 60-61.

¹⁷ Rawlins Report, 51.

1935. Reclamation was financed largely by the Government; the Reich Labor Service (*Arbeitsdienst*) enabled it to use an almost limitless supply of labor at no cost other than sheltering and feeding the young workers. The Labor Service compulsorily enlisted all young Germans of eighteen years for a period of six months. The writer was told by an official of the *Arbeitsdienst* that the organization held 250,000 young workers of which 70 to 80 percent usually were employed in agricultural work. Furthermore, the Government extended aid to agriculturalists through the Reich labor exchanges which were authorized to subsidize farmers who took on extra laborers. For each male hired at an exchange the farmer received a monthly sum of 18 RM. and for each female 14 RM. Such payments from 1933 to 1934 totaled 35 million RM.¹⁸ In 1934 the exchanges were given power to return to the land industrial workers formerly engaged in farming. These services rendered to agriculture by the State were of great importance, especially in a country which in previous years had faced a chronic shortage of farm labor and which had very little surplus capital. The Ems district near Holland was the most important center of land reclamation. The Government hoped to raise fresh vegetables on this newly acquired cultivable land and thereby free that area from dependence upon the Dutch growers.

In October 1936, this autarchy-bent system was tightened by the issuance of a decree announcing the Four-Year Plan with General Hermann Goering at its head. It did not institute a new or revolutionary policy, but intensified a policy already in operation. Goering, for administrative purposes, immediately established six divisions to deal separately with problems of production, distribution, regulation, and foreign exchange. Under the plan the *Hitler-Jugend* conducted systematic collections of kitchen refuse, more for demonstration than economic considerations. That the realities of the agricultural situation, however, were affected by the Four-Year Plan was instanced in the compulsory reduction of fertilizer prices in 1937 to two-thirds of their former levels. Farm credit, so essential in the German battle of production, was also expanded by increasingly large Government subsidies. This was of immense importance since practically all farm financing in Germany was done by a mixture of State subsidies and cooperatively raised revenue. There were also increased efforts to solve Germany's fodder needs by concentrating on the cultivation of greens, rape weed, and sugar beets. The acreage of rape weed was increased since an acre of this feed put four to five times as much fat on pigs as an equal amount of barley.¹⁹ Such was the scientific planning that existed in Germany.

The total returns to agriculture increased greatly after the Nazis came into power. Prices were raised, and costs, especially of labor and fertilizers, were decreased so that the net receipts of the farmers rose from 300 million RM. in 1932-33 to 2,094 million RM. in 1936-37.²⁰ Increasing the agricultural pur-

¹⁸ *Thelwall Report*, 170.

¹⁹ *Rawlins Report*, 66; de Wilde, "The German Economic Dilemma," 13.

²⁰ Guillebaud, *Economic Recovery of Germany*, 279; International Institute of Agriculture, *International Yearbook of Agricultural Statistics*, 1938-39, p. 907.

chasing power was an important step in the Nazi program of economic revival, and while it is perhaps early to predict lasting success for the strategy it is equally premature to predict catastrophe.

Whether or not agricultural autarchy can ever be attained in Germany is a matter of conjecture. It is, nevertheless, generally admitted that agricultural productivity was incapable of important expansion. Artificially made products such as "cell wool," "buna," and synthetic benzine proved themselves to be much more expensive than the natural products which they sought to replace. An optimum condition of livestock would have necessitated greater imports of fodder, unless, of course, the increased acreage of rape seed, flax, sugar beets, and catch crops proved sufficient to new needs. By 1937 Germany had closed her "supply gap" to 17 percent of her total agricultural and food demands—a very remarkable achievement considering the great indebtedness in which the Nazis found agriculture and considering further the natural limitations of German soil. It is interesting to note that Fritz Haber who with Karl Bosch discovered a method of "mining" artificial nitrogen from the air at a cost less than the world market price for Chilean saltpeter and who was, thereby, in a measure, responsible for Nazi achievement in agriculture, resigned his position as head of the Kaiser Wilhelm Institute for Physical and Electro-Chemistry in 1933, when his Jewish assistants were removed through Government pressure.²¹ Whatever more might be added, this at least seems appropriate to say in conclusion. German agriculture on the eve of the outbreak of hostilities was in a position not unlike that of the "little tree" about which one ardent Nazi supporter wrote the following:

Ein Bäumlein steht im Walde
Es ist organisiert!
Es ist im N. S. Wald-Bund
Damit ihm nichts passiert.

²¹ Brandt, "Recent Agrarian Policies in Germany, Great Britain and the United States," 169.

THE FARM JOURNALS, THEIR EDITORS, AND THEIR PUBLIC,
1830-1860

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The pioneer and model of agricultural journalism in the United States was the *American Farmer*, established by John Stuart Skinner in Baltimore on April 2, 1819.¹ This periodical and those which followed were not dissimilar to the present-day *Country Gentleman*, which was inaugurated in 1853. These papers were written primarily for the farmer and, in the main, were devoted to farming, stock raising, horticulture, and allied topics, although quite generally they carried a wide variety of extraneous material, including "poetry," jokes, anecdotes, news, "cures," and items of particular interest to the women and children.

Following the *American Farmer*, agricultural periodicals sprang up in all parts of the country. No less than four hundred different magazines made their appearance before the Civil War, and although the vast majority of these ventures were abandoned, every section of the country could boast of at least one journal firmly established by 1860.

The editors of these periodicals included more than a score of outstanding agricultural leaders who deserve individual notice, but this discussion is restricted to a collective consideration of them. Unfortunately, giants such as John Stuart Skinner, Luther Tucker, Jesse Buel, Edmund Ruffin, Daniel Lee, Solon Robinson, Orange Judd, and M. W. Philips must be largely neglected.

The editors who guided the destinies of these agricultural papers came from all walks of life and represented most of the professions. A large majority of them had previous experience in the field of journalism. The medical profession was well represented, and examples such as John Hoyt (*Wisconsin Farmer*), N. B. Cloud (*American Cotton Planter*), M. W. Philips (*South Western Farmer*), and Ezekiel Holmes (*Maine Farmer*) may be cited. The ministry also made a contribution, which included Henry Colman and Allen Putnam (*New England Farmer*), Tolbert Fanning (*Agriculturist*), and Henry Ward Beecher (*Western Farmer and Gardener*). A number had served in State legislatures. Isaac Hill had been Governor of New Hampshire as well as United States Senator before inaugurating the *Farmer's Monthly Visitor*. Many scientific farmers and planters gave their time wholly, or in part, to editorial work. Edmund Ruffin, the well known planter of Virginia, personally established a journal, the *Farmers'*

¹ This paper was presented at the joint meeting of the Agricultural History Society with the American Historical Association in Washington, D. C., on Dec. 29, 1939. For additional details on the subject, see the author's work, *The American Agricultural Press, 1819-1860* (Columbia University Studies in the History of American Agriculture, no. 8, New York, Columbia University Press, 1941, xxii, 430 p., illus.).

Register, in order to spread the gospel of agricultural reform. It is of interest to note that a great many postmasters inaugurated agricultural periodicals, particularly in the early years. Undoubtedly this was partly due to the existing generous franking privileges.

Most of the editors were practical farmers, and many of them continued to farm on a small scale after assuming editorial duties. This is contrary, however, to the assertion of a subscriber in the *Western Farmer and Gardener* who said that the editors, in general, although professing a profound love for agriculture, had never "embrowned their hands at it." While this statement probably reflected the contemporary rural opinion, many editors actually received substantial incomes from their farms, published accounts of extensive and varied practical experiments which they conducted, and frequently won awards at agricultural fairs. These achievements, therefore, help to substantiate the claim that they could "handle the plow as well as the pen."

Reimbursement for editorial services varied greatly. Many accepted no compensation for their efforts, others, who received salaries, normally supplemented them with additional earnings. Those who were proprietors as well as editors were fortunate indeed to receive any return. Some who found it necessary to supplement their earnings frequently engaged in book and job printing, conducted seed stores, sold real estate, taught school, or served as agricultural chemists. The following statement in the *American Agriculturist* characterizes the attitude of many: "If it were not for our extensive [agricultural warehouse] business and other things connected with this journal, we would not continue it another month—we could not afford to do so."

A large variety of subjects was discussed. As a rule, scientific farm practices, new to most contemporary cultivators but quite generally accepted today, were advocated in season and out of season. To the doubting and conservative farmers, the periodicals, with remarkable unanimity, pointed out the advantages of deep and horizontal plowing; ditching and draining of wet lands; diversification; the use of fertilizers such as guano, marl, and animal manure; crop rotation; selective breeding of livestock; proper feeding of animals and their adequate shelter in winter. Naturally the geographical location of a journal as well as the editor's individual interest and experience influenced the general content. Very often an editor's hobby determined the particular emphasis. For example, Skinner's *American Farmer* laid stress on livestock; Buel's *Cultivator*, on agricultural education; Ruffin's *Farmers' Register*, on agricultural chemistry; and Wright's *Prairie Farmer*, on common school education and agricultural machinery. Very often they dealt with experiments on their farms, visits to fairs, agricultural tours, and included personal comments upon contemporary problems. Frequently they reviewed agricultural and horticultural books, copied selections from them, and upon occasion printed articles from foreign periodicals, especially those of France and England.

While the personality and ability of more than a score of these dynamic rural leaders stamped their periodicals with a distinct individuality, it is also evident

that their leadership gave prosperity and vitality to the papers. This was demonstrated frequently by the utter collapse of a popular journal upon the death or resignation of its editor. The proportion of articles written by the editors for their respective periodicals varied greatly and depended largely upon individual interest and, in many instances, upon available time. For example, Governor Hill, who frankly admitted that he was a "mere gatherer" when compared with many of his colleagues, contributed comparatively few articles to his paper, the *Farmer's Monthly Visitor*. On the other hand, Edmund Ruffin probably wrote more than half of the articles in his *Farmers' Register*, frequently using a pen name so as to appear "less conspicuous." Likewise, Solon Robinson furnished a major portion of the text for the *Plow*.

Just as the two decades between 1840 and 1860 have been called the period of personal journalism among the newspapers, so the years from 1819 to 1860 may be similarly labeled for the agricultural press. While the newspapers had Greeley's *Tribune*, Bennett's *Herald*, and Raymond's *Times*, the farm press had Skinner's *American Farmer*, Ruffin's *Farmers' Register*, and Buel's *Cultivator*.

The friendly and intimate relationship that existed between editors and readers was evidenced in many ways. Baskets of fruit and other gifts sent by subscribers were constant reminders of the esteem in which the editors were held. Urgent requests to visit patrons came so persistently that the editors were often in difficulty endeavoring to explain that physical limitations would prevent the acceptance of all invitations. In speaking of the responsibilities of an agricultural editor, the *Ohio Farmer* said: "his pleasures, too, are great, and the pleasantest of all, are the *sympathies and appreciation of his readers*. Let him go where he will, from Maine to Minnesota, he will find a warm welcome from his friends who have learned to love him through the medium of his paper."

The simple and direct approach of the editors is seen on every hand. Skinner did not consider it inappropriate to discuss with his readers in the *American Farmer* the problems experienced in rearing his sons. Nor did the editor of the *American Agriculturist* hesitate to express regret that he was forced to disappoint his Hookertown friends because he was unable to attend "Sally's wedding." An editor often called a favorite contributor by name, reminding him that he was neglecting his friends in his failure to correspond more regularly.

This friendship was more firmly established by occasional visits of farmers to the editorial offices, where they sought all manner of advice upon agricultural questions. In many instances a large file of exchange papers as well as agricultural books was available. Aside from the reading room aspect of the offices, some took on the appearance of small museums or miniature agricultural fairs because of the numerous and varied contributions from the farmers. In these agricultural centers editors welcomed their patrons and friends.

A close and informal relationship also existed among the editors themselves. They were known to each other through personal contacts made on tours of observation about the country at conventions and fairs, as well as through their periodicals. While on tours, they seldom failed to pay their fellow workers short

visits. At the fall exhibitions, they resumed old friendships while making the rounds of the animal and farm machinery displays and freely quoted their colleagues in the succeeding issues of their journals. These close personal contacts aided in molding more firmly their common objective, namely, the advancement of agriculture. These men formed a kind of fraternity, bound together by no formal organization, but held by bonds of mutual interest.

In such an atmosphere it is not strange that one of the chief characteristics of the agricultural press was the ever-recurring evidence of understanding, sympathy, cooperation, and tolerance between these editors in all parts of the country. M. W. Philips of the *Western Farmer and Gardener* voiced the sentiments of his colleagues when he urged his readers to "seize with avidity knowledge" wherever found and "be not sectional." D. Redmond of the *Southern Cultivator*, at a meeting of agricultural editors in New York in 1858, made a plea that there be no "jealousies, or bickering, or contests, between the individual members of the fraternity" and this sentiment struck a most responsive chord at the convention.

Minor discords naturally developed and possibly the greatest single cause for friction arose from the use of copy without due credit. The *Maine Farmer*, in pleading with other editors not to "hook" their articles, added, "When you thunder with our thunder, have the goodness to label it correctly." In self defense the *American Agriculturist* apologetically adopted the copyright system in 1858. However, editorials with titles such as "Thou shalt not steal," "Give unto Scissors the Things which are Scissors," and "Editorial Pilfering" appeared frequently.

One of the few vigorous editorial combats of the period was waged between James J. Mapes of the *Working Farmer* of New York and a majority of the members of the agricultural press. Mapes was not only an agricultural editor, a "Professor," and a "Consulting Agricultural Chemist," but also a manufacturer of fertilizers. According to his contemporaries the sources of the titles, "Professor" and "Chemist" was never satisfactorily divulged and caused wide speculation. The best known of Mapes's fertilizers was "Superphosphate of Lime." During the fifties, when grave doubts were arising in the minds of agricultural authorities as to the practical value of soil analysis and mineral fertilizers, Mapes was making extravagant claims for his manurial panacea and incidentally charging the farmers twenty-five dollars for his "letters of advice," after collecting a five-dollar fee for a soil analysis. It was said that his analyses usually showed the need for his fertilizer. The terms "humbug," "fake," "charlatan," and "quack doctor" were openly applied by editors in all sections to this "man of phosphates" who, they claimed, "undermined" the prestige of the agricultural press.

Characteristic of the friendly tiffs that frequently occurred in the press was an occasional exchange between Henry Ward Beecher of the *Western Farmer and Gardener* and other members of the fraternity. For instance, a few editorial brows were lifted when the "college learned" preacher and editor committed the

"orthographical sin" of spelling the word "acre," a-k-e-r in his journal. The *New England Farmer*, objecting violently to this unorthodox procedure, called upon his fellow editors to "hoot at it" till it should "become obsolete." Beecher, claiming the support of Noah Webster, answered provokingly that nothing becomes obsolete until it has been in vogue. A few years later, however, when he had won a national reputation in the pulpit, his refusal to accept an honorary degree from Amherst was greeted with applause, especially in the western journals which felt there was "altogether too much of this A.M. and D.D. business carried on."

To a remarkable degree the editors looked upon their profession from a nationalistic point of view, for theirs was a national cause. In general, they recognized no sectional antagonism as late as 1860. This was due, in part, to certain restrictions upon the subject matter appearing in their pages. Politics and the discussion of slavery in its controversial aspects, the major trouble-makers of the period, were quite generally taboo. In addition, these leaders through wide travel at home and in Europe were better able than most of their contemporaries to rise above local animosities. Indeed, they easily transferred their allegiance from one journal to another, in widely separated areas, as editorial opportunities presented themselves.

The agricultural editors also helped to foster the growth of group consciousness which was appearing among farmers at this time. From the earliest days of the farm press, rural people were constantly reminded that they were the "chosen of God"—a group set apart—belonging to "the order of real noblemen." As the years wore on, a new emphasis appeared. The farmers and planters were warned that they were being neglected by their Government in the legislation passed by "political tricksters" at Washington. Although the editors attempted to avoid political discussions the readers were urged more and more to support farmers for public office.

Agricultural tours may well receive more detailed consideration. As first conceived, they provided a substitute for the written reports which farmers were reluctant to make. The editors went about the country, not as instructors, but as seekers of knowledge from practical husbandmen who were delighted to give information in a verbal fashion. With eyes wide open, these traveling correspondents journeyed about the country on horseback, by carriage, canal boat, and railroad train. They described agricultural conditions throughout the sections visited, told about the principal crops and methods of culture, and commented on the implements and machinery in use. Their accounts recorded interesting items on a host of topics relating to all phases of rural life, including manners, morals, amusements, social customs, religious practices, and a share of the intellectual diet of the country folk. Comments were also made on the climate, roads, travel accommodations, and living conditions. Especially interesting are the descriptions of slave life and plantation economy as they appear in the reports on southern tours.

These farm periodicals, it should be emphasized, are not only an invaluable

source for agricultural historians, but contain abundant data for the general economic and social historian as well. To date, however, the latter has tapped this source sparingly. The pages of these neglected journals contain abundant material for the student who is eager to investigate any phase of American life during the pre-Civil War period. Since these magazines provided the principal clearinghouse for agricultural information, they are today an unrivaled reservoir of agricultural data. In them may be found the story of the architecture of the period, the annual fair, the expansion of the common school, the development of internal improvements, and so on. Controversial subjects such as phrenology, mesmerism, and spiritualism were debated at length. The interests of the younger generation may be traced in the sections set aside for the children, while the departments for the ladies, often edited by one of their sex, discussed household economy and movements such as the woman's rights crusade. The trends, interests, and thought of the times are vividly reflected in the "poetry," jokes, "cures," and, in fact, all of the correspondence of the agricultural press. Since the United States was predominantly agricultural during these years, it is clear that the farm periodicals afford a fairly accurate cross-section of the life of the times.

Perhaps the most difficult task faced by the editors was the breaking down of the farmers' inborn aversion to agricultural periodicals and books. One editor said: "They will neither take an agricultural paper, read it when given them, nor believe in its contents if by chance they hear it read." The old saying, "Books and learning never made farmers," was often voiced by those who sneered at the idea of regarding agriculture as a science. It is also true that numerous working farmers, from a purely economic point of view, felt financially unable to experiment or to abandon methods that had proved tolerably satisfactory.

Many reasons were advanced for their unwillingness to subscribe to agricultural journals. A patron of the *New England Farmer* complained: "there is so little matter in it of use to the small, poor, middle-interest farmer, . . . and there is so much about flowers, tulips, geraniums, etc. etc.; and so much about this and that great farm, managed by the rich and opulent, all of which is beyond the reach and calculated to discourage the great mass." In the *Southern Planter* a correspondent wrote: "it seems to me that every philosopher, lawyer, doctor, merchant, and loaf—gentleman of leisure, I mean,—when he has nothing else to employ him, sits down and amuses himself by writing for the agricultural papers." Such criticism was probably justified, for the so-called authorities frequently announced theories that were later proved worthless.

A good deal of hostility was directed toward the editors since they often puffed new plants and animals of little intrinsic worth. A farmer, referring to agricultural journals in 1844, said: "I did take one several years ago, and that had so much to tell about a new kind of potatoe, that they sold for 25 cents a pound, and after all, it wasn't no better than the long reds; and about tree corn and mulberry trees; and a good many farmers got *bit*, by believing their great stories,

that I got sick of and stopped it, and would not now take the gift of one." Many editors were financially interested in the sale of these plants and animals, thus adding to the distrust of wary farmers.

While the editors appealed primarily for the patronage of farmers, available data indicate that men in all walks of life subscribed to the journals. The *American Farmer*, for example, always received the support of professional men, and Skinner called particular attention to the large number of naval officers who read his paper. In 1833, the list of subscribers to the *Farmers' Register*, aside from farmers, included preachers, professors, lawyers, physicians, officers of the Army and Navy, and a number of prominent political figures. Approximately 10 percent of the total were medical men. The *American Agriculturist* in 1845 asserted that not one farmer in a hundred subscribed to an agricultural paper, and added: "If it were not for the gardeners, mechanics, merchants, and professional men, who mainly support it, our paper *could not live a single year!*" However, a greater interest in agricultural reading on the part of the dirt farmer gradually became evident.

Whatever may be the judgment of the student of history in regard to the ultimate influence of farm journalism, it is of interest, in conclusion, to note the opinion of the contemporary agricultural authority, Edmund Ruffin. In 1851, he wrote: "Notwithstanding all the existing obstacles and difficulties, American agriculture has made greater progress in the last thirty years than in all previous time. This greater progress is mainly due to the diffusion of agricultural papers. In the actual absence of all other means, these publications, almost alone, have rendered good service in making known discoveries in the science, and spreading knowledge of improvements in the art of agriculture."

OKLAHOMA OIL AND INDIAN LAND TENURE

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Tenancy has increased in Oklahoma until it ranks sixth among the States in the proportion of farms operated by renters. In 1900, only about two-fifths of the farmers in Oklahoma were tenants, whereas, according to the Census of Agriculture, they formed more than 61 percent of the farm population in 1935. It is fairly obvious that the discovery and exploitation of petroleum fields in the one-time Indian Territory was an important factor in the development of the present condition of tenancy. Before the State was created in 1907 by the union of the Oklahoma and Indian territories, petroleum had been discovered on the lands of the Indians in the latter part. Until 1917, most of the petroleum came from relatively shallow drilling. The industry then turned to deeper drilling, and finding that most of the old Indian Territory had been explored, it moved onward. During the period from 1901 to 1917, a rapid turnover in land ownership took place, leaving the Indians largely denuded of real estate—a process that created a fundamentally tenant class.¹

The correlation between the Indian, the oil industry, and the development of tenancy can hardly be denied. It is borne out by the fact that the nineteen Oklahoma counties with tenancy of more than 70 percent are in the former Indian Territory. Of these, thirteen—Creek, Wagoner, Haskell, Okmulgee, Muskogee, McIntosh, Hughes, Seminole, Marshall, Love, Carter, Jefferson, and Okfuskee—produced petroleum. They contained fields ranking among the world's most important. Six of the high-tenancy counties—Coal, Atoka, Choctaw, McCurtain, Bryan, and Johnston—did not produce oil, but Coal County has been noted for its large deposits and output of soft coal.

No historical explanation is required for two aspects of the connection between the oil industry and tenancy. One is the thoroughly human factor that causes men to abandon farming when they acquire wealth. In countless cases farmers in the Southwest have moved to town when petroleum was discovered on their land. Often oil-rich men purchased large tracts and became "gentlemen farmers" with many tenants. Another effect of the oil industry on farming was the ruination of a large amount of land by salt water from the wells.

It is possible to overemphasize the influence of oil on tenancy in Oklahoma. Not all the counties of highest tenancy have produced petroleum.² On the other hand, the development of the industry served to make the Indian lands more

¹ John H. Southern, "Farm Tenancy in Oklahoma," Oklahoma Agricultural Experiment Station, *Bulletin 239*, p. 3, 7 (Stillwater, 1939).

² Peter Nelson, "Landlord-Tenant Relations in the Southwest with Special Reference to Oklahoma," in *Southwestern Social Science Quarterly*, 19:363 (March 1939).

desirable, and the Government facilitated their disposal. The part played by laws and officials during the flush years has received little attention. It is the purpose of this essay to show how the Indian lands were alienated and the unique basis of Oklahoma tenancy laid.

Early in the nineteenth century, the Five Civilized Tribes were given in perpetuity the lands which were later known as the Indian Territory. The tribes set up their own governments and established laws and customs. As the Anglo-American migration moved westward to the Pacific there was a steadily increasing white infiltration despite Federal laws, so that before the end of the century the majority of persons living in the Indian Territory were non-Indians. Conflict between the races for ownership of the fertile acres would have resulted in any circumstances, but the discovery of petroleum in six widely separated places by 1900 whetted the desire of the whites for the land.³

Allotment in severalty to the Indians was the first step in the process of alienating the lands of the Five Tribes, as the excess and unassigned parts were thrown open to white ownership. A campaign to remove the Federal restrictions protecting the Indians in the management of their allotments resulted in the passage of three laws which, by the spring of 1908, placed incompetent Indians at the mercy of the most grasping, unscrupulous, and corrupt men in the new State.⁴

Oklahoma's constitution and the first laws were adopted bodily from other States, with little or no attention to her peculiar problems. State and county officials were selected hurriedly from a different political party than that in power in territorial days. The more than one hundred thousand members of the Five Civilized Tribes, many unable to read or write English, saw in the course of a few years their tribal governments, customs, and institutions replaced by a culture that they did not understand.⁵ In May 1908, Congress passed an act, giving control of Indian estates to the county courts of Oklahoma,—courts which were limited in their civil jurisdiction over non-Indian affairs to cases involving no more than one thousand dollars. The Federal law gave them complete control of Indian estates, which in some cases were immense.⁶

In the year of statehood, Oklahoma produced 43,524,128 barrels of crude

³ Angie Elbertha Debo, "History of the Choctaw Nation from the End of the Civil War to the Close of the Tribal Period" (Doctoral Dissertation, University of Oklahoma Library, Norman, Okla., 1933); William Dudley Foulke, "Despoiling a Nation," *Outlook*, 91:40 (Jan. 2, 1909).

⁴ 62 Congress, 2 Session, "Indian Affairs; Laws and Treaties," *Senate Document* 719, 3:136; *United States Statutes at Large* (1891-92), 27(1):645; U. S. Department of the Interior, *Revised Leasing Regulations of June 11, 1907, Governing the Lands of the Five Civilized Tribes*, 5-7 (Washington, 1907); Wade Mountfortt, "The Indian Congress; The Last Days of a Dying Régime," in *Ainslee's Magazine*, 5:235 (April 1900); Lawrence Mills, *Oklahoma Indian Land Laws*, 8-9, 453, 458, 459-460, 462 (ed. 2, St. Louis, 1924); J. H. Finley, Federal probate attorney at Muskogee, Okla., to Gerald Forbes, Jan. 21, 1939.

⁵ 68 Congress, 2 Session, "Indian Affairs in Oklahoma," *House Report* 1527; Statement by H. H. Atkins of Muskogee, July 27, 1937; *Oklahoma Statutes*, 1931, 1:566-567, 570, 574-577, 589 (Oklahoma City, 1931).

⁶ Mounds (Okla.) *Enterprise*, Dec. 13, 1907; *House Report* 1527, p. 2, 5-7; Statement by J. H. Finley of Muskogee, July 28, 1937.

oil, enough to rank the area as one of the leaders in the Nation.⁷ Virtually all of this petroleum was from former Indian lands, and most of it was discovered on the lands of individual tribesmen. Many allotments had produced thousands of barrels of oil, especially in the Glenn Pool, where the owners had been made quite wealthy. Hundreds of these Indians were incompetent to manage their own affairs under the laws of the United States, and now both the Indians and their property were placed under the jurisdiction of the county benches which were none too capable.⁸

Few acts had such a dire effect on the individual lives of as many Indians as did the law of 1908.⁹ The county judge was empowered to name a guardian for the person or estate of an Indian, and at his discretion more than one guardian might be named for a single ward. When a minor reached the discreet age of fourteen he could, with the judge's approval, appoint his own guardian. As a means of protecting the interests of the ward, the guardian was required to post a surety bond, and the judge could remove him.¹⁰ The bondsmen were often financially irresponsible, and removal could be prevented by making large personal loans from the ward's funds to the judge or his relatives. The guardian was empowered to lease his ward's land for oil, invest the funds of the estate, and collect rents, interest, and other incomes. His compensation was to be "reasonable in the eyes of the court." Generally, the law considered a commission of 10 percent reasonable, but no guardian could receive more than four thousand dollars annually from one ward. By law, a professional guardian might have no more than five wards.¹¹

Many attorneys became professional guardians, and gave a low ethical tone to the profession in the eastern part of Oklahoma. They were a group that was certain to develop in a region where fabulous wealth was to be found on the lands of an unlettered and helpless population. While the courts approved a commission of 10 percent for the services of the guardian, there were many examples of much higher recompense—even reaching 100 percent. There were also cases in which thoroughly competent Indians were declared legally incompetent so that guardians might administer their estates.

The guardianship law provided that the land of a minor might be sold to pay for his education. Guardians were known to place their wards in schools at Federal expense, and when the trust lands proved valuable, offer to sell them on the pretext of paying for schooling.¹²

⁷ *Oil Weekly* (Houston, Texas), 88(8):24 (Jan. 31, 1938).

⁸ *Oil and Gas Journal* (Tulsa, Okla.), 34(22):95 (Oct. 17, 1935); U. S. Commissioner of Indian Affairs, *Annual Report*, 1908, 2:192-194; Statement by H. H. Atkins of Muskogee, July 27, 1937.

⁹ *House Report 1527*, p. 3.

¹⁰ U. S. Commissioner of Indian Affairs, *Annual Report*, 1914, 2:54-56; *Oklahoma Statutes*, 1931, 1:567, 569, 583-584; *U. S. Statutes at Large* (1907-09) 35:312-313 (Washington, 1909).

¹¹ Statement by J. H. Finley of Muskogee, July 28, 1937; U. S. Commissioner of Indian Affairs, *Annual Report*, 1910, 1:47; 1914, 2:52-56.

¹² Muskogee (Okla.) *Phoenix*, Feb. 5, 1939; U. S. Commissioner of Indian Affairs, *Annual Report*, 1912, 2:486; 1913, 2:8.

The bench was not above corruption in its handling of Indian estates. There were many cases in which money belonging to the wards was loaned to the judges or to their friends on notes endorsed by the judges. The State provided no way to prosecute them, and they were not accountable to Federal officials. With such a community of interests between the guardians and the judges, it was natural that many of the sixty thousand wards should be robbed. Some excuse for the carelessness of the judges can be found in the immense number of guardianship actions brought before them, although the number dropped in 1913. An honest and conscientious judge would have found a careful, personal study of each case a physical impossibility.¹³

The profits of corrupt guardians came not only from the land, but from all phases of the Indian's life. The guardian instructed his ward where to buy groceries and clothing and when the monthly bills were paid, the merchant doubled the amount and gave the guardian half. This sort of connivance was applied to every imaginable commodity or service. There was at least one Indian funeral for which the guardian paid a handsome fee, and the body was interred in a pine box. There were cases in which bankers required Indians to repay borrowed money several times.¹⁴

Negroes, as well as Indians, were the victims of dishonest men. The Five Civilized Tribes had slaves who, freed by the treaties of 1866, received allotments with their former owners.¹⁵

Conditions became so disgraceful that the County Judges Association of Oklahoma drew up a group of rules to govern estate procedure. The Supreme Court of Oklahoma approved the rules, but the State Legislature, probably more subject to pressure, failed to incorporate them into the statutes.¹⁶ Reformers did not cease their efforts, however, and the Board of Indian Commissioners brought charges that resulted in a Congressional investigation which applied a liberal coat of whitewash.¹⁷

The redistribution of Oklahoma oil wealth took place rapidly after 1908, for through the guardianship system, corrupt individuals had been given a legal

¹³ *Ibid.*, 1912, 2:485. See also *ibid.*, 1913, 2:477; *House Report 1527*, p. 3.

¹⁴ Warren K. Moorehead, *Our National Problem; The Sad Condition of the Oklahoma Indians* (Andover, Mass., 1913); Statement by J. H. Finley, Muskogee, July 28, 1937, verified Moorehead.

¹⁵ Muskogee (Okla.) *Times-Democrat*, July 27, 1908, printed a story of a Chicago real estate man who came there and rented an entire floor of an office building. The equipment, in addition to desks and contracts, included an ample supply of food and drinks for the entertainment of allottees. The entertainment continued from Saturday to Monday morning and the Chicago man with his assistants were busy the entire time day and night attempting to buy allotments at bargain rates from the members of the Creek tribe. Only two deeds were said to have been signed. There were two other buildings in which similar efforts to swindle the Indians were made with no more success, according to the printed article.

¹⁶ U. S. Commissioner of Indian Affairs, *Annual Report*, 1913, 2:37; 1915, 2:434; *House Report 1527*, p. 8-9.

¹⁷ *Ibid.*, 8; *Oklahoma Statutes*, 1931, 1:584.

approach to the increasing fortunes of a growing number of helpless Indians. It was possible for oil-producing land to be purchased from the allottees for only a fraction of its agricultural value. An Indian gave his excess land to be bailed out of jail, or he traded it for a ten-dollar railroad ticket. So rapid was this process that at the end of three decades only about one-fifteenth of the allotments remained in Indian hands.

Fully restricted Indians were generally protected by the Government through the Union Agency at Muskogee, but the estates of many were not thus supervised, and the owners were encouraged by interested persons to squander their money. The squandering process left a substantial residue in the hands of attorneys, land agents, oil men, and guardians.¹⁸ In 1912, the Federal Government indirectly restricted the operations of the guardians. Their vouchers were withheld until the county judges had certified that the bond was legally sufficient and that all reports had been made. Later, the guardians of minors were required to show that their wards had attended school at least fifteen days of each month that classes were in session.

In 1914, in an effort to relieve the congestion in the county courts and to lessen the corruption attending litigation, the Federal Government provided a group of twenty probate attorneys. The part of Oklahoma inhabited by the Five Tribes was divided into districts of one to six counties each. Federal probate attorneys were assigned to the different districts to give attention to the guardianship cases. Their coming brought better ethical standards to the legal machinery of the State. These probate attorneys thwarted ingenious guardians and accumulated funds to be invested for the benefit of the Indians. In January 1915, there were 53,433 probate cases pending in the county courts. In six months 37 criminal actions were started and 65 similar cases had been disposed of by the probate attorneys. In addition, the probate attorneys filed 213 civil suits and tried 116 others. The Indian property involved in these cases was valued at \$1,525,377. Simply by checking the reports of the guardians, the probate attorneys saved the Indians \$462,100 and forced the guardians to file new bonds amounting to \$687,500. The judges welcomed the probate attorneys and many lent their cooperation. By July 1, 1915, there were 52,045 probate cases on the dockets.¹⁹

In 1917 the oil industry began deeper drilling which soon indicated that most of the petroleum in the Indian country had already been discovered and that the most profitable wells of the future would be found to the westward. The oil industry gradually moved away, and with it went the chief cause of corruption in the administration of Indian estates. The Indian's hereditary disregard for and inexperience in private landholding was an important cause in the rapid aliena-

¹⁸ U. S. Commissioner of Indian Affairs, *Annual Report*, 1912, 2:487; 1915, 2:33, 370, 412-413.

¹⁹ *Ibid.*, 1913, 2:36; Statements by H. H. Atkins of Muskogee, July 27, 1937, and by W. R. Robison of Muskogee, July 28, 1937.

tion of his allotments. The presence of large deposits of petroleum greatly increased the acquisitive instincts of the Anglo-Americans, while a complaisant Government paved the way for the property to be taken from the Indians.

At the beginning of the twentieth century the Indians of the Five Civilized Tribes were the helpless prey of unscrupulous Anglo-Americans. The whites were quick to take advantage of the opportunities of approaching statehood, and the discovery of great wealth under the Indian lands. Hundreds of Anglo-Americans became wealthy. One man was believed to have become the world's largest individual landowner as a result of his acquisitions. Many Indians whose allotments would have made them rich were pauperized in a short time. Thus they lost the basis for a freehold agriculture.

ARTESIAN-WELL IRRIGATION: ITS HISTORY IN BROWN COUNTY, SOUTH DAKOTA, 1889-1900

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South Dakota took up irrigation out of dire necessity. General W. H. H. Beadle, the Horace Mann of Dakota, once said: "A rule of thumb for wheat production is that the crops of the first three years are equal to the next five; and those of the first five years are equal to the next eight." Not until the late eighties did Dakota appreciate this statement, because from 1877 to 1885 the crops were so bounteous and the rainfall so abundant that even the great grasshopper plague of 1876 was forgotten.¹ This boom brought into the country men who farmed by eastern methods and who were almost helpless in the face of conditions beyond their experience.

With the coming of drought years, Dakota farmers generally did not leave their lands and seek refuge in the humid country to the east. Pleasant memories of the crop of 1882 generated hopes for the future. Wheat raising was in their blood, and dollar wheat as a cash crop held allegiance. The farmers knew that they must raise grass grains if Dakota was to be farmed at all. Hence, when droughts and pests threatened, necessity mothered ingenuity, and the pioneers turned to every scheme which offered even faint hope of saving their livelihood.

Three plans were proposed to save the soil and crops of Dakota. The first was a "tank" or reservoir system, suggested as early as 1889 by Major John Wesley Powell, the Federal geologist; the second was artesian-well irrigation; and the third, artificial rainfall.² The tank system as a Federal project reached the committee stage in Congress and was tabled,³ and artificial rainfall proved a fantastic dream. Memories of the droughts of 1886 and 1889 predisposed the people to irrigation, and it became the most popular and important remedy.

In Brown County, South Dakota, the *Aberdeen Daily News* early advocated irrigation by artesian wells. Its editors urged the bonding of the county for \$100,000 with which to sink them, and sought the support of United States Senator L. R. Casey of North Dakota, chairman of the Senate Committee on Irrigation. In 1889 they uncovered a South Dakota law which permitted the probate judge and the board of assessors to appropriate two mills of the county

¹ Herbert S. Schell, "Drought and Agriculture in Eastern South Dakota in the Eighteen Nineties," *Agricultural History*, 5:162-180 (October 1931); Harold E. Briggs, "Grasshopper Plagues and Early Dakota Agriculture, 1864-1876," *ibid.*, 8:51-63 (April 1934); Marc Malvern Cleworth, "Twenty Years of Brown County Agricultural History, 1880-1899," *South Dakota Historical Collections* (1934), 17:17-176.

² Frank H. Hagerty, *The Territory of Dakota*, 85-86 (Aberdeen, 1889).

³ T. C. Gage, "Scrapbook," 120.

tax levy for irrigation purposes.⁴ However, there were important objections to the policy they advocated.

To the prudent farmers the financing of the wells was a vital question. One at Aberdeen had cost \$6,000 in 1889, and no individual cared to invest that amount. It was suggested that neighbors could irrigate four sections of land by a well located at the common junction, bringing the cost down to an estimated \$1.52 per acre.⁵ The use of Federal money from the rivers and harbors appropriation was also urged.⁶

Many were of the opinion that the supply of water was ample. "These artesian wells will not be exhausted until the rivers dry up and the great lakes from Baffin Bay to the Gulf of Mexico shall become dry places too."⁷ Wells which flowed with constant pressure for several years convinced even the skeptical. Fears that what was commonly called "alkali" would destroy the crops were dispelled by an incident in Aberdeen. A sewer well overflowed a nearby wheat field, and the farmer, whose first impulse was to sue for damages, found that it bade fair to yield at least 30 bushels to the acre, whereas the crops on the adjacent farms were practically worthless. From this incident it was concluded that the chemical properties of artesian water were favorable to grain.⁸

Several towns, acting under the State law, petitioned for wells. Three artesian commissioners were appointed to advise the authorities of the best locations. The *Daily News* warned against allowing private companies to sink wells and urged the people to "Be sure to retain control of the water supply!"⁹

The editors turned to advocating Federal aid, and thus drew fire from the eastern press. The *Springfield Republican* editorially said:

South Dakota's first request of Congress . . . is for an appropriation for the purpose of making surveys and boring experimental wells in order to determine the feasibility of an irrigation system based upon artesian wells. Resolutions favoring state irrigation at Uncle Sam's expense appear in several of the platforms of the new states. *This is a socialistic departure that would be fraught with danger to the republic.* The federal authority is extended to international commerce, and consequently the laying out of national funds for the improvement of rivers and salt-water ways had not seriously been disputed. But upon what theory can the establishment of irrigation systems be prosecuted by the general government?¹⁰

Nonplused by these legal-sounding arguments, the *Daily News*, soliloquized: "The lesson for us from this situation, is to be self-reliant and independent." As if anticipating the Massachusetts paper, an anonymous contributor advanced

⁴ *Aberdeen Daily News* (S. Dak.), May 17, 1889, p. 2; also June 23, 28, 1889, p. 2.

⁵ Gage, "Scrapbook," 120.

⁶ *Daily News*, July 30, 31, 1889, p. 2.

⁷ *Ibid.*, May 17, 1889, p. 2.

⁸ *Ibid.*, June 30, 1889, p. 4. It was later shown, however, that the water contained large quantities of Epsom salts which had a very bad effect on both soil and crops. These were known as "soft-water, shallow wells," usually 500 to 800 feet deep. Hardwater wells were 1,000 feet deep or more.

⁹ *Ibid.*, Oct. 20, 1889, p. 4.

¹⁰ *Ibid.*, Oct. 31, 1889, p. 4.

the idea that the Government irrigate areas requiring artificial moisture if they were sold as agricultural lands. Quickly the editors seized on the idea: "Why not make them good, *if the goods sold are not as represented?*"¹¹

Within a fortnight C. W. Barringer of Huron and S. W. Narregang of Aberdeen organized the Artesian Irrigation Company with a capital of \$100,000. The company offered to sink wells, taking farm mortgages in payment. The Farmers' Alliance felt that the Federal Government should help start an irrigation system. In 1889, Fred F. B. Coffin, later State Irrigation Engineer, was made chairman of a group which met with Senator Casey's committee at St. Paul. They gained a promise of support, but nothing was done until the following year.¹²

The *News* began its irrigation campaign in earnest on January 1, 1890. It expressed the belief that if wells 12 inches in diameter were sunk on the banks or in the watershed of the James River enough water would be provided for the irrigation of 1,000,000 acres and a deeper channel for river transportation as well. "With the James River made navigable for barges and tugs, farmers could snap their fingers at railroad rates for cattle and hogs to Sioux City, Omaha, and St. Louis. An appropriation of \$250,000 would furnish the water and enough to spare for irrigating the lowlands."¹³

Meanwhile enthusiasts made all they could of private irrigation, designating engineers who constructed new wells as public benefactors. H. C. Beard of Aberdeen and other county leaders were willing to experiment with artesian wells if municipalities would pay a portion of the expenses. Beard made such an offer to Aberdeen, promising to return the city's money if he was successful. The offer was accepted, and within a few months the well was under construction.¹⁴

Interest abated for a time, but spring failed to bring rain—only .07 inches falling in one month—and the *News* sarcastically remarked, "No, we need no irrigation in this region!"¹⁵ Hope revived with the creation of an Irrigation Inquiry Office in the Federal Department of Agriculture, and of a commission headed by Colonel Richard J. Hinton with Edwin Nettleton as advising engineer. The Commission had to report by July 1 and when it reached Aberdeen on May 12, the entire county was agog. It was immediately waited upon by a *News* reporter. Asked about the feasibility of irrigation, Nettleton replied that the country was altogether too fine to be handled in such a manner and too level to permit its most successful use as too great rainfall would well-nigh create a swamp.¹⁶

¹¹ *Ibid.*

¹² *Ibid.*, Nov. 7, 1889, p. 8; Nov. 28, 1889, p. 1.

¹³ *Ibid.*, Jan. 8, 1890, p. 4.

¹⁴ *Ibid.*, Feb. 8, 1890, p. 8.

¹⁵ *Ibid.*, Apr. 18, 1890, p. 6.

¹⁶ *Ibid.*, May 12, 1890, p. 6. A very accurate estimate and almost exactly what happened. The fact is particularly true of the James River Valley. The larger portion of South Dakota is hilly and rolling.

Finally the Commission's report was ready, and the *News* gave excerpts to its readers:

1. The Artesian Belt of the James River valley is the largest in the world—400 miles long and comprising 7,000,000 acres. Ninety-eight percent could be made available for tillage.
2. Nearly one hundred wells were already put down in South Dakota, varying in depth from 600 feet to 1,577 feet, with a pressure ranging from 25 pounds to 170 pounds per cubic inch.
3. The cost of wells varied from \$2,800 to \$7,300; if systematized, the cost could be cut to \$1,500 or less.
4. The state desired experimental wells; the Commission recommends such action to Congress.
5. The chief crops are: Hard wheat, corn, oats, barley, potatoes, and hay.
6. The Commission placed the crop loss by drouth at 40% for wheat, 80% for corn, and 30% for oats.¹⁷

The Commission's report ran into difficulties in Congress and was lost in the rush of late business. Other bills were proposed and new schemes promulgated, all to no avail, without exhausting the resourcefulness of the *News* and its cohorts. With the cooperation of the Aberdeen Club, a booster group, the newspaper issued a call for an irrigation congress to be held at Aberdeen on the following August 20. The call was addressed mainly to people east of the Missouri River, but all were welcome, not only South Dakotans but North Dakotans who lived along the banks of the James River.

Meanwhile reports of two experiments renewed interest in irrigation; one field produced 23 bushels per acre of No. 1 Hard Spring wheat, while adjoining lands yielded barely 5 bushels of low-grade wheat; and the second, after losing forty growing days, produced 15 bushels per acre.¹⁸ The country buzzed with anticipation. To cap the climax the *News* reported that there were many people who had made up their minds to leave South Dakota if irrigation were not secured.¹⁹ It summed up the advantages of artesian-well irrigation and raised the question: "Should irrigation be accomplished by private enterprise or governmental aid?"

The irrigation congress met on the appointed day.²⁰ After the appointment of committees to organize the citizens of the State, the discussion turned to actual experiments, and the delegates exchanged experiences of the preceding two years. A comparison of the production and cost of dry farming and irrigation was favorable to the latter. It was estimated that many wells could be constructed on the model of the Day-Harrison well, which was 480 feet deep, produced a 4-inch flow, and had cost but \$1,800. The cost of the main irrigation ditch was estimated at \$1 per 100 feet.

Consideration was given to Powell's plan for utilizing the waters of the Missouri River in a canal system, but the Reverend J. H. Kyle, later United

¹⁷ *Ibid.*, May 22, 1890, p. 5.

¹⁸ *Ibid.*, Aug. 6-16, 1890, *passim*.

¹⁹ *Ibid.*, Aug. 20, 1890, p. 2.

²⁰ *Ibid.*, Aug. 21, 1890, p. 3, 4.

States Senator from South Dakota, opposed it as not meeting immediate demands. Further discussion led to resolutions which proposed dividing the State into cooperative irrigation districts to secure political and private backing for the scheme. The final resolution recommended both canal and artesian-well irrigation, and asked that the Federal Government aid the people who had passed through two consecutive droughts. The *News* supplemented these suggestions by a plan whereby the Government would provide digging outfits and allow the farmers to do the work themselves, as did the French in Algeria where Government consulting engineers were sent to valleys where the wells were being dug.²¹

Meanwhile business men of Aberdeen and Redfield pooled their resources and organized the James River Irrigation Company. Another group from Brown and neighboring counties started the Dakota Irrigation Company. Others sank wells as rapidly as their funds would permit. These companies not only put down wells, but offered to rent "rigs" to cooperative groups.²² A committee suggested that Brown County, now debt free, be bonded for \$150,000 for irrigation projects. The board of commissioners found, however, that the law regulating such transactions would have to be changed before the question could be submitted to the people because the petitioners could not outline the details of spending and specific uses for the money had to be given.

The enthusiasm for irrigation was by no means universal. There were those who looked at the dark side of the experiments and felt that, at best, irrigation was but a remedy for the "off years." The spirits of the irrigators were dampened, moreover, by the destructive hail storms of 1891, the losses from which came on the heels of outlays for irrigation.²³ At about this time Dr. Louis McLouth, president of the State College, undertook to answer some of the more pressing questions concerning the use of artesian wells. He took the position that the water supply was inexhaustible and could be easily tapped and distributed by competent engineers. As to the effects of the water content on the soil and crops, his conclusions were as follows:

1. There are no alkaline ingredients in the water.
2. The salt percentages are much higher in North Dakota than in South Dakota.
3. The amount of water needed is about 4 to 6 inches per season of five months.
4. The total saline properties equal about one-fifth of one per cent.

In conclusion it may be stated, at any rate, that the dangers from artesian irrigation are so few and so remote, and the evil consequences of drouth so certain and so immediate, that most farmers who can will be justified in making the trial.²⁴

McLouth's opinions unleashed a chorus of optimism and out-of-State news papers carried stories of the efficacy of the wells. Jeremiah M. Rusk, the

²¹ *Ibid.*, Aug. 23, 1890, p. 2. The Powell system is now (1937) being tried along the Missouri River.

²² *Ibid.*, Aug. 24, 1890, p. 2.

²³ *Dakota Farmer*, Nov. 21, 1890, p. 2; *Daily News*, January-July 1891, *passim*.

²⁴ *Daily News*, Jan. 6-24, 1891, *passim*. Later Dr. James H. Shepard of the State College showed that the water contained a great deal of common and Epsom salts which soon wrought havoc with the soil and crops.

United States Secretary of Agriculture, became interested in making South Dakota fruitful; an Eastern correspondent wrote that irrigation had revived confidence in Dakota among the farmers; and the *New York Tribune* spoke in behalf of the western farmers who desired irrigation.

In 1891 the Melville Township Irrigation Law which permitted the bonding of townships to secure funds for irrigation was enacted.²⁵ However, when the townships attempted to sell their bonds, there was no market for them, and the township wells were destined to have hard going. At this juncture the Government investigators, headed by Nettleton, came to Aberdeen to look over the Beard experimental well and consider an earlier proposal that the Government take over the property and continue the experiment. Nettleton gave his approval and the Beard farm became a center of education in irrigation, with Government employees as teachers.²⁶

When the *News* felt that the desire for irrigation might disappear, it rallied the friends of the cause with a recital of the other valuable characteristics of the wells.

The power of these wells is almost inconceivable. . . . The fact is that the artesian wells of this valley furnish the ideal mechanical power of the world. The power requires no fuel, no engineer, no repairs, no extra insurance. It never freezes up, nor blows up, nor dries up. It can be managed by a girl baby. There is not a single objectionable feature about it. \$1,500 will furnish everlasting 50 horsepower. The wonder is that all the woolen, cotton, silk and linen mills of the world do not rush to take possession of it.²⁷

Unfortunately, the very thing which the irrigators sought—water—tended to defeat their appeals. The year 1892 was another 1887,—the rains were almost floods. The James River went on a rampage and Brown County nearly floated away. Prospects of a bumper crop were made brighter by reports that Europe was experiencing a worse drought than that of the previous year. The heat of July lowered the yields, but attention was diverted from irrigation by a Government report that South Dakota was entering a period of excessive precipitation. Farmers delayed sinking wells, and irrigation began to lose favor. Some viewed it as a menace unless wisely used. Wells were plugging up and causing much difficulty, and even the enthusiasts were silenced by the unusual amount of moisture. Other discouraging reports began to trickle into the news. A farmer in the southern part of the county had irrigated a 40-acre field of potatoes. The crop was large, but the soil became so lumpy and difficult to work that he stopped irrigating, and for some time the field could not be used.²⁸

The years 1893 and 1894 brought not only State-wide but world-wide droughts. The yields in Brown County averaged 6 bushels per acre—as little as in 1890. Prices were low because quality was poor and wheat was fed to livestock. These

²⁵ *Ibid.*, Mar. 9, 1891, p. 2; *Dakota Farmer*, May 1, 1891, p. 7.

²⁶ *Daily News*, May 16, 1891, p. 4.

²⁷ *Dakota Farmer*, Jan. 15, 1891, p. 2, quoting from the *Daily News*.

²⁸ *Daily News*, Aug. 11, 1893, p. 3; and personal interviews with men who tried the experiments.

droughts did not stimulate irrigation, but had the opposite effect. Those who had supported Government subsidies for irrigation found themselves unable to pay taxes to finance the plan. Some claimed that irrigation had been overdone, that the water must be controlled or great damage would result. The *Denver Field and Farm* asserted that over irrigation destroyed fertility for at least six seasons, and the *Dakota Farmer* warned that if too much water were used, an alkali crust would form, killing the vegetation and spoiling the land.²⁹ The likelihood of mismanagement, excessive zeal, and faulty knowledge made irrigation a hazardous undertaking.

Artesian-well irrigation in Brown County ultimately failed for a multiplicity of reasons.³⁰ Irrigation has always worked best in uneven country and the hinterland of the James River was flat enough to arouse fears that excessive rains coupled with irrigation ditches might turn it into a swamp. The perpendicular capillary ducts in the soil prevented the proper spreading of the water which when used in excess made the land unfit for cultivation. The saline content of the artesian water also had important effects. It destroyed the humus, injured the crops and even formed a crust on the land. The wells themselves plugged up after a time. The process was expensive beyond the means of the average drought-stricken farmer who, in addition, found credit dear at local banks. The human variables of ignorance and mismanagement of a new technique played an important part. Altogether, artesian-well irrigation offered neither immediate relief nor permanent solution to the problems of the Dakota wheat area.

Since that day men have continued to recommend some method of irrigation for South Dakota. At this writing Major Powell's plan of canals fed by the Missouri and Cheyenne rivers is in operation. Approximately 100,000 acres are, or will be, affected. The outcome is yet in doubt but past mistakes will probably not be repeated and expert Government advice is now more generally available. What the distant future will bring no man can tell.

²⁹ *Daily News*, Mar. 13, Dec. 4, 1893, *passim*; *Dakota Farmer*, Dec. 1, 1900, p. 1.

³⁰ Personal interviews.

CROP HUSBANDRY IN EIGHTEENTH CENTURY ENGLAND

G. E. FUSSELL AND CONSTANCE GOODMAN

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Part 1

Men grow crops for their own food and for feeding the animals from which they derive flesh and byproducts to amplify their regimen.¹ The crops that can be grown in given conditions of soil and climate, therefore, decide the menu when transport of bulky goods is not easy. The consequence was that the staple products of certain districts remained static during the whole of the eighteenth century, farming processes and rotations being little modified during that hundred years. In more fortunate districts changes were great, but perhaps not so appreciable as is generally believed. These districts were on the seaboard of the east coast where rivers enabled the farmers to get their net products to the sea. At the end of the century, river improvements or canal engineering provided similar means of transport for other areas.

The attempt to gauge the extent of the changes by statistical methods has not yet been made, and it is doubtful whether it ever will be possible to collect evidence adequate to this occasion; however, something may be done by indirect methods. Contemporaries themselves were aware of the lacunae in the evidence they presented, although that did not prevent them from indulging in wholehearted and acrimonious controversy, ignorance being very little hindrance to full-blooded argument in a robust age.

Political arithmetic developed in the late seventeenth and throughout the eighteenth century, and led to a number of statistical speculations which covered nearly the whole field over which modern statistics are regularly collected. Perhaps the most famous discussion of the time dealt with the question of whether the population was increasing or decreasing. In addition to this question, the urge to produce wheat for export, the recurrent dearths, the increase in the price of foodstuffs, and the constant and increasing burden of the poor rates led theorists to deal with food production very closely. Often enough the calculations had no firm basis, although those who made them were very ready to defend them. In the absence of vital information, such as the size of the country, many such calculations were bound to be hopelessly inadequate. Recognized by the writers themselves, the deficiencies of speculation became completely understood by the end of the century, although, in the absence of any mechanism, official or otherwise, for the collection of real statistical data, speculation continued for another sixty odd years.

Nearly two hundred years before England decided to collect agricultural statistics, the

¹ This article is a continuation of the following series of articles by G. E. Fussell on crop husbandry in eighteenth century England, which appeared in the *Journal of the Ministry of Agriculture*: Somerset and Wiltshire, 43:734-738 (November 1936); Hertford and Middlesex, 43:944-947 (January 1937); East Anglia (Norfolk, Suffolk, and Essex), 44:36-42 (April 1937); Bedford, Cambridge, and Huntingdon, 44:353-357 (July 1937); Lincoln and Rutland, 44:651-654 (October 1937); Northampton and Leicester, 44:1199-1203 (March 1938); Oxford, Bucks, and Berks, 45:563-569 (September 1938); Hampshire and the Isle of Wight, 46:387-391 (July 1939). Unless otherwise indicated, the place of publication for the citations which follow is London.

necessity for them was recognized. In 1676, John Graunt realized that a knowledge of such relevant details of the country's economy as the output per acre of corn and hay and the number of animals fed on the land was essential before adequate measures could be taken to supply any want that might occur if the crop failed.² He was, however, much too far in advance of his time, if only because the current decentralized system of government would have effectually prevented the collection of the information, there being for practical purposes no central department which could have been made responsible.

In 1757, another voice cried in the wilderness.³ There had been one or two calculations before that date, but the contemporary dearth had impressed the owner of this anonymous voice. He knew that his own estimates were dubious, but thought that it would not be difficult to obtain returns for corn stocks every November 15, and from them to judge whether corn should be exported, imported, or neither. This demand for an official collection of statistics was echoed in the following year.⁴

Neither visionary suggested how the work should be done, but no such deterrent occurred to W. Pennington, who boldly asserted:⁵ "Would not the application of a few pensions . . . be better directed to maintain a proper number of inspectors in each county, men of judgement and reputed integrity; who might every summer receive an account from the constables, delivered upon oath and attested, what number of acres is sown, and with what kind of corn, in their respective parishes. A few experiments would enable them to judge how it yielded in general; and by comparing the produce of different years, it would be easy to discover whether there was sufficient for home consumption." This conception is singularly modern.

Only a few years later, William Donaldson asked for a central board of agriculture, and proposed a statistical inquiry into the state of agriculture.⁶ He believed that the information collected should include, among other details, the area under pasture and tillage, beasts kept, corn sown, and quantity reaped.

Many speculations were made when the difficulties of the Napoleonic Wars confronted the country, but there were singularly few demands for the only possible means of obtaining accurate information. The suffering from bad harvests and unprecedentedly low prices, however, did stimulate one writer to recommend an agricultural census in 1800,⁷ and it is clear that a growing demand for accurate information arose, as several more pamphleteers mentioned the subject in the following period.⁸ It was, however, many years before the demand became forceful enough and the organization of centralized government had developed sufficiently to permit the work to be done.

² John Graunt, "Natural Political Observations Mentioned in a Following Index, and made upon the Bills of Mortality (ed. 5, much enlarged, London, 1676)," in *The Economic Writings of Sir William Petty, together with the Observations upon the Bills of Mortality, more probably by Captain John Graunt*, edited by Charles Henry Hull, 2:396 (Cambridge, Eng., 1899). The first edition appeared in 1662.

³ *A Compendium on the Corn Trade*, 25 (1757).

⁴ *Sentiments of a Corn Factor on the Present Situation of the Corn Trade*, 22 (1758).

⁵ W. Pennington, *Reflections on the Various Advantages Resulting from the Draining, Inclosing and Allotting of Large Commons and Common Fields*, 47 (1769).

⁶ William Donaldson, *Agriculture Considered as a Moral and Political Duty*, 172 (1775).

⁷ An Independent Gentleman [John Symmons], *Thoughts on the Present Prices of Provisions, their Causes and Remedies*, 5 (1800).

⁸ Rev. John Malham, *The Mischief of Fore-Stalling*, 55 ff. (1800); Anonymous, *Thoughts on the Dearness of Provisions*, 1-15 (Oxford, c. 1800); An Old Tillage Farmer, *Thoughts on Tillage*, 68; John King, *Thoughts on the Difficulties and Distresses in which the Peace of 1783 Has Involved the Kingdom of England* (ed. 5, 1783).

Be that as it may, neither the absence of statistics nor the demand for their official collection prevented the political writers from producing figures in support of their various arguments. These figures, however, must be accepted with the utmost reserve. The question of whether Gregory King was exact in his estimates may be cited as an example. In some respects, his conclusions, particularly as to the distribution of arable acreage between different crops, are very doubtful. He believed that the arable acreage was larger than the pasture acreage at the end of the seventeenth century. No such opinion was prevalent a hundred years later. At the least, the two areas were thought to be quite equal, but the larger body of opinion held that pasture exceeded arable land by some 50 percent. Many of the later estimates do not set the arable acreage as very much greater than it was in King's time, but apparently conclude that the area devoted to pasture had been so widely extended as to outstrip the development of arable cultivation. This is highly significant, and though the elements of the trend cannot now be distinguished and described, it shows that some theories relating to the period need, at least, examination and probably revision. The most important of these ideas is, of course, the assumption that there was an immediate change in the purpose to which land enclosed by Parliamentary process during the eighteenth century was put.⁹ If the arable area of the country even maintained its dimensions and the pasture was largely extended, there was no real need for this change, it being within the bounds of possibility that the new pastures were made by reclamation of marsh, down, and mountain land.

It seems probable, however, that the arable area was more rapidly expanded during the first forty years of the nineteenth century than it was during the eighteenth. This conclusion is justified when the requirements of the more rapidly increasing population of the time are considered in relation to the comparatively small amount of corn imported prior to 1840.¹⁰ The difficulty of measuring the changes by statistical methods is very great, but it may be possible eventually to place them more accurately than has yet been done. Already an attempt has been made to measure the increase in the wheat area in the eighteenth century, and while it is certain that some increase did take place, both in the area devoted to wheat and the arable land generally, the change must not be exaggerated.¹¹ The considered opinion of some of the greatest scholars is that the increase in the wheat land—the prime preoccupation of eighteenth-century statesmen and farmers—was either small or not so great as other increases in agricultural output.¹² In spite of this, the country remained very nearly self-subsisting in the matter of cereal foodstuffs. Although the change from export to import, resulting from a population growth which exceeded the expansion of the arable area, obviously took place, the imports were really of proportionately small dimensions except in rare years.¹³ It has been pertinently pointed out that,

⁹ E. M. Leonard, "The Inclosure of Common Fields in the Seventeenth Century," in Royal Historical Society of England, *Transactions* (n.s.) 19:116-117 (1905); Gwen Whole, "The Influence of the Industrial Revolution (1760-1790) on the Demand for Parliamentary Reform," in *ibid.* (ser. 4) 5:124 (1922); Gilbert Slater, "The Inclosure of Common Fields Considered Geographically," in *Geographical Journal*, 29: 54 (January 1907).

¹⁰ G. R. Porter, *The Progress of the Nation*, 138-140 (1847).

¹¹ G. E. Fussell, "Population and Wheat Production in the Eighteenth Century," *History Teachers' Miscellany*, 7:65-68, 84-88, 108-111, 120-127 (May-August 1929).

¹² W. H. R. Curtler, *The Enclosure and Redistribution of Our Land*, 145 (Oxford, 1920); Ernle, *English Farming, Past and Present*, 266 (ed. 5, 1936).

¹³ Thomas Tooke, *A History of the Prices and the State of the Circulation, from 1793 to 1837*, p. 62, 72, 214-215 (1838); M. H. Passey, *Des systemes de culture et de leur influence sur l'economie sociale*, 5 ff. (1846); Paul Mantoux, *La révolution industrielle au xviii^e siècle*, 164

even if the law had permitted the freest possible importation, there were no foreign supplies of any large bulk available to feed England until the last quarter of the nineteenth century when the virgin soils of the New World were made accessible by improvements in transportation.¹⁴ The truth of this is exemplified by the difficulty experienced in feeding the population during the short harvests of the Napoleonic Wars.¹⁵

The effects of enclosures upon the uses to which the land was put has been widely discussed, but the fact that the counties recognized today as predominantly grazing still have a high though perhaps decreasing quantity of arable land has been overlooked. The tendency pointed out above is toward a wider extension of the grazing area than that of tillage. The turning of open-field arable to grazing coupled with the enclosure of waste for cultivation was probably not as marked as some writers have asserted.¹⁶ As Miss M. C. Buer has said, "It is hard to realise that the England of the late 18th and early 19th century was in many respects a new country. Great tracts of moor and fen were being brought under cultivation by new settlers." In the absence of real scientific knowledge, these new settlers were putting the land to its best use only after a process of trial and error which ended in failure for some and success for others. Much land that was put under arable cultivation failed and reverted again to grass, and some consolidation was deliberately undertaken for the purpose of improved grazing.¹⁷ There were still, however, large tracts under open-field cultivation, and wastes and commons estimated at as high as 8 million acres were unreclaimed at the end of the eighteenth century.

Such contemporary estimates of acreage under the different crops as there are have been discussed in the paper referred to above.¹⁸ The conclusions there stated are not final, of course, but are an approximation that has as reasonable a measure of credibility as can be expected from the nature of the available evidence, and in spite of the fact that doubt has been cast upon the validity of much of that evidence. The progress made in wheat production from 1700 to 1800 can be set out as an increase in output from 29 to 50 million bushels per annum, consequent upon a rise in the average yield per acre from 20 to 22 bushels, and an extension of the area on which the crop was grown of about 800,000 acres, or from $1\frac{1}{2}$ to slightly over $2\frac{1}{2}$ million acres. Thus, the area was enlarged by one-third, the total yield by approximately two-fifths, and, during the time the farmers took to secure this increment, the population had doubled, which at once removes any lingering doubt as to the reason why the export dwindled and importation became necessary.

(Paris, 1906); J. S. Nicholson, *The History of the English Corn Laws*, 30-33 (London, 1904); W. Cunningham, *The Growth of English Industry and Commerce in Modern Times*, Pt. 2:704-706 (Cambridge, 1912); Curtler, *Enclosure and Redistribution of Our Land*, 143; Eli F. Hecksher, *The Continental System*, 336 (Oxford, 1922); Ernle, *English Farming, Past and Present*, 266.

¹⁴ William James Ashley, *The Economic Organisation of England*, 136 (1914).

¹⁵ See W. Freeman Galpin, *The Grain Supply of England during the Napoleonic Period* (New York, 1925).

¹⁶ E. C. K. Gonner, *Common Land and Inclosure*, 356, 381, 397-399, 415, 437-439 (1912); Gilbert Slater, *The English Peasantry and the Enclosure of Common Fields*, 92, 104, 106 (1907), and "The Inclosure of Common Fields Considered Geographically," in *Geographical Journal*, 29:54-55 (1907).

¹⁷ M. C. Buer, *Health, Wealth, and Population in the Early Days of the Industrial Revolution*, 38, 61, 69 (1926). See also C. S. Orwin, *The Reclamation of Exmoor Forest*, 1-5 (1929). Cf. J. A. Scott Watson and May Elliot Hobbs, *Great Farmers* (1937); T. E. Scrutton, *Commons and Common Fields*, 113-114 (1887).

¹⁸ See footnote 11.

Although this increment was considerable, it was not of the extent suggested by the generalizations used by some enthusiastic, perhaps a trifle uncritical, admirers of eighteenth-century progress. Indeed, it seems that much more progress must have been made during the first forty years of the nineteenth century.¹⁹ The wheat increment, combined with a similar one in other crops, was the result of a not unworthy effort on the part of a proverbially slow-moving class of men, whose isolation was pronounced and who were comparatively unlettered.

By what means and in what districts was this effort made? How did the much-talked-of improvements slowly spread until the whole of the farming community was awakened, or, at least insofar as some backward parts of it were concerned, ready to be awakened by the end of the century?

Conditions varied between what may be roughly classified as the east of England bounded by a line running from the East Riding of Yorkshire in a southwesterly direction to Hampshire, and the rest of the country and Wales. The difference consists in soil variations and conditions of climate and accessibility. Moreover, the eastern ports were in constant communication with the Low Countries, and it was from these that most of the agricultural improvements were derived. The new cultivated grasses, new implements, and even new strains of cattle are believed to have been imported and adapted to the needs of that part of the country. Progress westward was very slow, and the difference in the nature of the farming conditions was recognized by contemporaries. At about the time Arthur Young began his farming tours, a geographer wrote: "The soil of England and Wales differ in each county, not so much from the nature of the ground, though that must be admitted to occasion a very considerable alteration, as from the progress which the inhabitants of each county has made in the cultivation of land and garden, the draining of marshes, and many other local improvements, which are here carried to a much greater degree of perfection than they are perhaps in any other part of the world, if we except China." He admitted, however, that "nothing can be said with any certainty concerning the quantities of wheat, barley, rye, peas, beans, vetches, oats, and other horse grain growing in the kingdom."²⁰

Unfortunately it was not until Young reported on his tours that any detailed information about the different practices of the various parts of the country was made available. The writers of the numerous didactic treatises on husbandry often failed to identify the part of the country where the methods they described were habitual, and, if some of their critics can be believed, they made this omission for a good and sufficient reason. Each was, of course, free from the faults of his predecessors according to his own story. Thomas Hale, whose *Compleat Body of Husbandry* was issued in 1756, complained that "The Authors who have written on *Husbandry* have all failed, either in *Matter*, or in *Manner*. They have not been able to *instruct the Farmer*: . . . being either superficial or verbose and causing confusion by the use of local terms not understood in other districts." John Mills in the preface to his *New System of Practical Husbandry* stated that John Worlidge had tried to write a complete agriculture, but that the many improvements made since that time were sufficient excuse for a new book.²¹ Young was an inveterate enemy of such writers, and his attacks on them recur again and again in his own voluminous

¹⁹ Porter, *Progress of the Nation*, 140. See also Ernle, *English Farming, Past and Present*, 148, 190, 224-225.

²⁰ William Guthrie, *A New Geographical, Historical, and Commercial Grammar* . . . , 174, 178 (ed. 3, 1771).

²¹ John Mills, *A New and Complete System of Practical Husbandry*, xiv (1762), referring to John Worlidge, *Systema Agriculturae* (1669).

output. "The first point an inquisitive reader attends to, is the reality of the experiments; an enquiry not a little necessary in an age so fertile in book-making, which produces so many experimental husbandmen, whose fields yield such great crops without soil, and whose cattle are fattened so nobly without food—farmers without farms. But geniuses, in whom invention supplies the defect of land, seed, cattle, implements, and every requisite save pens and paper; while such continue to write, it is very necessary, in works of this nature, for the author to set his name to his labours, with that of the place where his experiments were made."²²

The didactic works must, therefore, be used with caution and their evidence only accepted when substantiated as Young demanded. It is natural that among such writers there should be a good deal of plagiarism, and this, like the Grub Street nature of the work, was already recognized in 1765. An anonymous writer, in a periodical which Young condemned, wrote: "Indeed, the copying of English writers on husbandry, one from another, has been so servile and notorious, that there is hardly a mistake in the ancient authors [the classical authors] . . . as also in Googe, Plattes &c. which is not faithfully preserved in modern works upon the same subject; which will appear to every candid reader upon examination."²³ This statement certainly contains a large measure of truth, but there is a sediment in this ocean of ink which is an apt description of the methods adopted in some districts. Daniel Defoe, in his *Tour*, described some farming in the 1720s, but he was, as his modern editor G. D. H. Cole says, more interested in trade than in farming. The other less encyclopaedic tourists can also be drawn upon when they actually mention rotations, methods of manuring, and so on, although one of the later topographers is a little skeptical of the value of their observations.²⁴ However that may be, they sometimes note the variations in cropping, cultural operations, implements, and manuring practices in the different parts of the country, and these, combined with a critical use of the didactic treatises, will, it would seem, present a more complete general picture than those that have already been drawn. Keeping fully in mind the wide scholarship of Lord Ernle, there is an impression that he was too preoccupied with improvements, and did not lay enough emphasis on the narrow compass of the area they affected. The improvers, as many of the didactic writers pointed out, were often wealthy landlords, and it was nothing less than the truth when the working farmer said that such methods were not for him. There are similar examples today. The well-known model farm at Iwerne Minster, Dorset, now given up, is only possible for a man possessing unlimited capital and quite beyond the purse of the average farmer.

The farming of the eastern part of England during the eighteenth century has achieved the most fame. Descriptions of the systems and adaptations made during one hundred years in the counties between the Humber and the English Channel have already been published in the *Journal of the Ministry of Agriculture*.²⁵

²² Arthur Young, *A Course of Experimental Agriculture* . . . , I:vii (Dublin, 1771). See also Arthur Young, *The Farmer's Letters to the People of England*, 245-249 (1768), and *The Farmer's Guide in Hiring and Stocking Farms*, II (1770); [Henry Home, Lord Kames], *The Gentleman Farmer*, vii-ix (Edinburgh, 1776); *Annals of Agriculture*, 2:325 (1784); and the controversy described in G. E. Fussell, "George Winter and His Book on Farming," *Notes and Queries*, Oct. 27, 1928, p. 294.

²³ Arthur Young, *Museum Rusticum et Commerciale* . . . , 4:44 (1765).

²⁴ *The Topographer*, 163, "the majority of them [tours] . . . are nauseous repetitions of each other." See also T. D. W. Dearn, *An Historical Topographical and Descriptive Account of the Weald of Kent*, xlvI-xlvII (Cranbrook, Eng., 1814).

²⁵ See footnote 1.

SUSSEX, SURREY, AND KENT

The earlier topographers divided Sussex roughly into three parts,—the Wild or Weald, almost impassable in winter, but producing great abundance of oats and hops and having large pastures and meadows; the Downs, where the famous Southdown sheep had their origin; and the part between the Downs and the coast, which was largely arable. The statement about oats is confirmed by a diarist who noted in August 1700/01 that one farmer made a rick of 65 loads of oats and had another 50 loads in addition from another field.²⁶ Wheat and barley were also grown as well as flax, while the orchards supplied “nonpareils.”²⁷

Clover also was early introduced into the rotations of the clays. It was usually sown with barley or oats, after the corn, and then harrowed in with a bush harrow, but it was sometimes sown with wheat or rye. Two corn crops were taken, and the clover and ray grass was left down for three years, dung or lime or chalk being applied to the ley.²⁸ Buckwheat was plowed in as green manure before growing lucerne in Sussex.²⁹ Marl, lime, shells, and even rotted branches and leaves were used for manure.³⁰ Arthur Young passed along the coast from Rye to Chichester, but did not add much except details on the differences of cropping in the places he stopped. Some of the land was still under the three-course rotation of the open fields, but longer courses were prevalent. Some of the meadow was hollow drained, and there were plows drawn by eight oxen and one horse. Most of the farms were leased.³¹ The tillage of the Downs came in for criticism fifteen years later. Not half or even quarter enough sainfoin was grown, nor half enough turnips or coleseed, although the latter were frequently fed off before sowing wheat. The country was devoted to grazing but sowed corn, especially barley and peas, for the former of which it was famous. On the whole, however, the husbandry was more blame than praiseworthy.³² By 1798, the Weald was divided into farms of middle size between 100 and 400 acres; there were many small owners, but the farms were mainly occupied by tenants and the land mainly arable. Wheat and oats, some barley and turnips, many peas but no beans were cultivated. Lime was generally used. In the Petworth district the farms were all occupied by tenants. The crops were the same: there were many turnips, however, and much rye and tares for spring feed and soiling, and some one-year ley. On the seacoast strip the farms were larger, and there were some substantial yeomen. There was no trace of common field in the Weald, all having been enclosed from the forest. The writer, William Marshall, did not mention hops, but these continued to be cultivated, especially near Robertsbridge.³³ His evidence on the cultivation of the Weald, however, conflicts with that of the reporter on the county who stated that one-

²⁶ Edward Turner, ed., “Extracts from the Diary of Richard Stapley, Gent., of Hickstead Place, in Twineham, from 1682 to 1724,” *Sussex Archaeological Society, Archaeological Collections*, 2:126 (1849).

²⁷ “Diary of Thomas Marchant, Dec. 29, 1714,” *ibid.*, 25:183, 189 (Sussex, 1873).

²⁸ John Mortimer, *The Whole Art of Husbandry*, 27–31, 47–48 (1707).

²⁹ William Ellis, *The Practical Farmer, or the Hertfordshire Husbandman*, 21 (Dublin, 1732).

³⁰ Thomas Hale, *A Compleat Body of Husbandry*, 64–65 (1756); Richard North, *An Account of the Different Kinds of Grasses Propagated in England*, 23–35 (1759).

³¹ Arthur Young, *The Farmer's Tour through the East of England*, 3:117–177 (1771).

³² *Annals of Agriculture*, 3:133 (1785).

³³ William Marshall, *The Rural Economy of the Southern Counties*, 2:93–142, 169–189, 229–239 (1798). See also *Annals of Agriculture*, 11:170–304 (1789); 28:113–123 (1797).

third of the Weald was arable, while the proportion between arable and pasture was 30 to 1 on the south side of the Downs. The course in the Weald was fallow, wheat, oats, clover for two or three years, oats, peas, or wheat, but there was a large variety of courses, and the Norfolk rotation was practiced on the lighter lands. Potatoes were grown for fattening cattle near Battle. Paring and burning was used on the Downs and in reclamation of the forest lands which were still extensive.³⁴

A heavy, bad, one-wheel plow had been common in the county and was still used in the coast lands in 1808, with three horses in a line. The ox team survived in other parts until quite recently. The Kentish turnwrest plow, however, was said to have been most common, and a broadshare was also used. Horse hoes, iron dibbles, scufflers, Duckett's skim coulter, and the Rotherham plow are also in the county reporter's list, and three threshing machines had been erected.³⁵

Surrey was spoken of by the topographers as being fertile in its edges but barren in the middle. Marshall delineated the boundaries of the wastes as from Staines to Basingstoke, Bagshot to Farnham, Petworth to Petersfield, and Farnham to Petworth; and, from Ascot Heath in Berkshire to Bexley Heath in Sussex, an area he estimated at 150 square miles.³⁶ Nearly a hundred years before, Defoe had estimated 100,000 acres of waste from Farnham, over Bagshot Heath to Windsor, in the counties of Surrey, Hampshire, and Berkshire.³⁷ This group of common waste was not the only one in the county, for Holmwood was probably more extensive than it is today and the line ran across the county into Kent, but some attempts were being made to reclaim Bagshot Heath by breastplowing it and trying to find marl for manure. Indeed, some success was achieved in this way in several enclosures on its borders which were made available for corn or grass, while in some parts this poor land was afforested. By paring and burning and then growing turnips on which sheep were folded, Charles Hamilton obtained a sward of grass on his park near Cobham where none had previously been deemed possible.³⁸ It is, nevertheless, true that the roads across Bagshot Heath, like those on Salisbury Plain, by reason of the travelers' seeking an easy route, were sometimes half a mile wide.³⁹ The farmers in the north of the county do not seem to have been very backward in adopting improvements. William Ellis saw potatoes grown on the fallow in an open field between Kingston and Ditton, but this was probably the influence of the market gardens nearer to London.⁴⁰ The method of farming mentioned by Thomas Hale is fallow, two crops, and lay down with clover for three years.⁴¹

Already in Defoe's time, the road from Guildford to Leatherhead was bordered by country seats, but there were great corn markets at Farnham, Guildford, and Croydon,

³⁴ Rev. Arthur Young, *General View of the Agriculture of the County of Sussex*, 26-44 (1793); and the 1808 edition of his *General View of the Agriculture of the County of Sussex*, 67, 70-72, 100-102, 106, 112 ff., 115, 120, 129, 197 ff. (1808).

³⁵ Young, *General View . . . of Sussex*, 55-60, 90 (1808). See also John Mordant, *The Complete Steward*, 274 (1761); Hale, *Compleat Body*, 289 ff.

³⁶ Marshall, *Rural Economy of the Southern Counties*, 2:81-82.

³⁷ Daniel Defoe, *A Tour through the Whole Island of Great Britain*, 232 (ed. 2, 1769). According to William James and Jacob Malcolm, *General View of the Agriculture of the County of Surrey*, 7 (1794), Surrey had "commons and wastes of the magnitude of 96,000 acres" at the end of the seventeenth century.

³⁸ *The Great Improvement of Common: that are Enclosed*, 4 (1732); Defoe, *Tour*, 1:236, 239.

³⁹ Richard Bradley, *A Complete Body of Husbandry*, 270 (1727).

⁴⁰ William Ellis, *The Modern Husbandman*, 1 (February):105 (1750).

⁴¹ Hale, *Compleat Body*, 18.

while Richmond and its neighborhood were enclosed and cultivated in the utmost perfection of husbandry.⁴² Young passed through the western side of the county in 1767, and found it cultivated. There was much sainfoin around Guildford, and clover and turnips had been introduced into the rotations, while between Cobham and Westminster the land was enriched with manure from the capital.⁴³ The experimentalists, Duckett and Arbuthnot, farmed in the northwestern part of the county, although it seems strange to hear of Petersham as the home of one and to learn of farms at Mordon ranging between 50 and 500 acres. At Cheam rye was grown for spring feed, and there was some sainfoin.⁴⁴ The commons in the county were probably more extensive than they are today, and the farming in the land abutting on or reclaimed from them was not good. The three-course system prevailed in the open fields in 1794, although the Norfolk system had been adopted on the chalk, and many different rotations were followed. Drilling was not extensive. Rye was usually grown only for spring feed or seed, and oats were general after clover on strong soils. One writer suggested that turnips as a field crop originated in this county and did not think that they owed so much to Lord Townshend as is generally believed. Potatoes were only grown regularly near London. The hops of Farnham continued to hold their own. Chalking and liming was practiced in the Weald, and the waste products of London were used as manures in the north.⁴⁵ Various implements were used, no less than thirteen different types of plow being enumerated, including a small swing plow with a patent cast-iron moldboard. There were also skim plows and trenching plows, and the mole plow was generally used for draining. Rollers were of two sizes, and drills were used in the west. Horse hoes were not very common, but there were several scufflers. Wagons were more common than in Middlesex, and one-horse carts were rare. There were not many winnowing machines, and, although these machines had been introduced into Scotland a hundred years before, they were scarcely known in any county south of Yorkshire.⁴⁶ The size of farms was too diverse to make a general statement about them.

For the farming of Kent there is a continuous record, although it does not cover the whole of the county in detail. Turnips were cultivated on one estate in the county in 1687, and flax the year before; hops had been introduced as early as 1620, and an orchard of 425 apple trees was begun in 1665. In the eighteenth century, some fields were cropped on the following rotations: Oats for four years, fallow, wheat, and oats three years, and fallow; and pasture every four years, then peas or wheat for three. Rye was cropped for eight years continuously, then a fallow was permitted, and then oats and clover were sown year after year until 1748 when the field was fallowed. Turnips occurred more frequently in the eighteenth century on this estate, but otherwise the cultivation was much the same as in the seventeenth century.⁴⁷ Pehr Kalm, the Swedish traveler

⁴² Defoe, *Tour*, 1:238, 243, 252.

⁴³ Arthur Young, *A Six Weeks' Tour through the Southern Counties of England and Wales*, 186-194 (ed. 2, Dublin, 1771).

⁴⁴ Young, *Farmer's Tour through the East of England*, 2:242-560; 3:1-5.

⁴⁵ *Annals of Agriculture*, 11:176-179 (1789); 17:158-181 (1792); 22:177-199 (1794); 28:104-105 (1797); James and Malcolm, *General View of . . . Surrey*, 38-40; William Stevenson, *General View of the Agriculture of the County of Surrey*, 147-148, 186-202, 207, 221, 226, 242, 291, 325, 494, 506 (1809).

⁴⁶ Stevenson, *General View of . . . Surrey*, 116, 131-134, 137-139.

⁴⁷ Eleanor C. Lodge, *The Account Book of a Kentish Estate, 1616-1704*, p. xxix-xxxii (1927).

who passed through the county in 1748, confirmed these crops and methods of cropping, and described the outstanding features of some districts in much the same way as the numerous contemporary topographers.

Wheat was sown in stitches of 10 or 12 feet, with water furrows between, but barley was sown in broadland. The country around Gravesend was in small enclosures mainly sown with wheat, but barley and oats also figured; no rye was grown, but an occasional field was devoted to buckwheat. Clover and sainfoin were also seen, and some farmers had begun to cultivate lucerne, very heavy crops being obtained on the best tilled land.⁴⁸ Between Dartford and Shooter's Hill, the husbandry was very good some twenty years later, the course of cropping being peas, turnips, barley, or oats and wheat; clover was sometimes sown with the barley and then wheat. A good deal of sainfoin was cultivated here. Much the same crops were cultivated all the way to Rochester and Maidstone,⁴⁹ but everywhere round Maidstone and Canterbury hops had been grown during the century, and the orchards of cherries, apples, and other fruits consistently caused favorable remark by the topographers.

The Weald was devoted to the grazing of large bullocks, and around Maidstone, large quantities of corn, hops, cherries and other fruits were grown. Hops were raised around Canterbury, while from Tunbridge to Lewes in Sussex there were the typical bad roads of the Weald in its rich land. Romney Marsh was devoted to sheep and bullocks. By 1753, kitchen gardens were established at Gravesend, the fertility of the Isle of Sheppey was favorably remarked, and Sandwich was becoming noted for carrots, the seedsmen in London obtaining stocks from there.⁵⁰

Paring and burning the heath lands was practiced throughout the century, the paring being done with a broad-finned plow and the ashes being mixed with lime and sea sand. The land was then heavily dunged and three years of wheat were taken, followed by barley and the fold, then three years of oats and one of peas, after which the land went back to grass.⁵¹ On the Isle of Sheppey, with its reputation for productiveness, seaweed and other manure was plentifully used and the rotation was barley, wheat, beans, and oats, the land then lying fallow for a year. The Kentish shim was used for earthing up the beans, which were dibbled by hand or with a seedbox.⁵² There was a good deal of sainfoin and lucerne grown, and Marshall thought that clover had probably been grown in the county before it had in Norfolk. Otherwise, the cultivation of the arable lands was very little changed during the century, many of the practices recorded by the earliest writers being still usual when the later reports were made. Chalk was used on the clays

⁴⁸ According to William Ellis, *Chiltern and Vale Farming*, 273 (1733), "the first considerable Improvement" with sainfoin "was in and about Northamptonshire."

⁴⁹ *A Description of England and Wales, Containing a Particular Account of Each County*, 5:24, 25 (1769); Young, *Six Weeks' Tour*, 70, and *Farmer's Tour through the East of England*, 3:18-22; *Annals of Agriculture*, 2:61 (1784).

⁵⁰ Defoe, *Tour*, 1:141, 152-153, 158, 165, 172, 191. See also ed. 5, 1753, 1:134, 147, 154, 161, 166.

⁵¹ Mortimer, *Whole Art of Husbandry*, 60-61; Stephen Switzer, *Ichnographia Rustica*, 3:214 (1718); Mordant, *Complete Steward*, 141; Charles Ley, *The Nobleman, Gentleman and Steward's Complete Guide*, 34 (1787).

⁵² Dr. Pococke, *Journal*, 2:88 (1750); *Description of England and Wales*, 5:25 (1769); *The Margate Guide*, 7 (1780); Marshall, *Rural Economy of the Southern Counties*, 2:6-33; Thomas Pennant, *A Journey from London to the Isle of Wight* (1801).

early in the century and was still common at the end.⁵⁴ The Norfolk course, however, had been adopted on some of the sandy soils by 1814.⁵⁴

In general the Kentish farms were not large, and in 1813 the number of occupying owners was reported to be increasing, perhaps as a natural result of the prosperity of farmers consequent upon the war. Marshall set the average rent in the Weald from £40 to £400, but thought that the majority of the farms were under £100. They were seldom more than 150 acres in extent.⁵⁵

The Kentish turnwrest plow was the outstanding implement in the county, and there was a broadshare used instead of the breastplow for paring. Oxen were often used for plowing, although four-horse teams made difficult work of the heavy land. Drilling, the great improvement of the eighteenth century, had not made any considerable advance. The remaining implements contained little worthy of remark.⁵⁶

DORSET, SOMERSET, DEVON, AND CORNWALL

The southwestern peninsula comprises the counties of Dorset, Somerset, Devon, and Cornwall. These lie outside the general area where any marked improvement took place, and although the water meadows of Dorset and Wiltshire were a feature which differentiated these two counties from most others, only the changes in the use of the land indicate the effects of the slowly spreading improvements here. Defoe recorded little that supplies information on this point. South of Wimborne to Poole was sandy, wild, barren country; around Dorchester thousands of sheep were fed; and from Shaftesbury there was a view of the enclosures of Somerset and Wiltshire.⁵⁷ At the same time, lime was freely used in Dorset at the end of the seventeenth century as it was in Wiltshire,⁵⁸ and in a county devoted to sheep breeding and dairies, the values of clover and trefoil were speedily recognized. These grasses were grown for one or two years, the land was then plowed once, and barley harrowed in.⁵⁹ Sainfoin was also cultivated on the dry, stony hills.⁶⁰ Young found the southern part of the county in much the same state as Defoe had. Common furze and fern covered the country from Ringwood to Critchell, from Critchell to Poole, between Poole and Blandford, and between Charborough and Wareham. Where the land was farmed, however, a four-course rotation had been adopted; winter tares were fed off by sheep, and the fold and chalk were used as manures. Watered meadows were common near Moreton. A defect of the husbandry was that there were no turnips for the sheep. From Moreton to Dorchester the culture

⁵⁴ Bradley, *Complete Body*, 57-61; Young, *Farmer's Tour through the East of England*, 3:13-16, 43-110; *Annals of Agriculture*, 2:61-96 (1784); 7:561-574 (1786); 19:83 ff. (1793); 27:510 ff. (1796); Jean Marie Philepon Roland, *Works*, 168, 170, 172, 173, 222 (1800); John Boys, *General View of the Agriculture of the County of Kent*, 14-17, 36-38, 56, 67, 68, 75, 79-80 (ed. 2, 1805); Marshall, *Rural Economy of the Southern Counties*, vol. 1; Pennant, *Journey . . . to the Isle of Wight*, 1:106.

⁵⁵ Dearn, *Historical . . . Account of the Weald of Kent*, xlii.

⁵⁶ Marshall, *Rural Economy of the Southern Counties*, 1:51; Boys, *General View . . . of Kent*, 38; Dearn, *Historical . . . Account of the Weald of Kent*, xliii.

⁵⁷ Mordant, *Complete Steward*, 276; Marshall, *Rural Economy of the Southern Counties*, 1:59-64, 79; Home, *Gentleman Farmer*, 26-34; Dearn, *Historical . . . Account of the Weald of Kent*, xliii; Boys, *General View . . . of Kent*, 53, 255-256.

⁵⁸ Defoe, *Tour*, 1:335, 339, 351.

⁵⁹ Edward Lisle, *Observations in Husbandry*, 30 (1757).

⁶⁰ William Ellis, *New Experiments in Husbandry, for the Month of April*, 14 (1736).

⁶¹ Robert Brown, *The Compleat Farmer*, 113 (1759).

was the same. Here there was one large farm, but between Dorchester and Weymouth the farms were small and on them the four-course rotation was followed by grass for three to five years, as it was at Milbourn St. Andrews and Blandford, and as far as Milton Abbey. There was a large farm of 11,000 acres between Dorchester and Bridport, and in this district a six-course rotation was usual, while the land was heavily limed and a great deal of hemp and flax was grown.⁶¹ Very little more is added to this by writers of the two editions of the county reports made for the Board of Agriculture or by William Marshall. The yields obtained in the county were perhaps lower than the average of the country, and this may have been due to the bad cultivation. By 1812, some Norfolk courses had been introduced near Blandford, and the lack of turnips deplored by Young was gradually being made good. Some fish and some kelp was used for manure near the coast, and a little green manuring had been tried in one limited district. Near Bridport the fallows had begun to be sown with potatoes, hemp, or flax, and the bare fallows had disappeared on the relatively small part of Blackmoor Vale under tillage.⁶²

The plows used were of two kinds; both were wheel plows, and in 1812 one type had a curved moldboard covered with iron plate. There were the usual harrows, a nine-share plow, scarifiers, and rollers, but few drills were used, although there was a considerable number of threshing machines. The wagons and carts were light and good and resembled those of Bedford. Most plowing was done with three horses and a driver, but in some places the two-horse system had been adopted.⁶³

The most outstanding physical feature of Devonshire is the moors and the most outstanding products are cider and cream. Of the latter, little was heard in the eighteenth century, because preservation and transport were not so well known or so easy as now. Defoe said that, except for the moors, the county was populous and fruitful, and he commented upon the export of cider from the South Hams.⁶⁴ The north of the county along the coast was manured with lime brought from Wales, dung, sand, and other compost, and produced tolerable crops of corn; the east and middle were most fertile, however, and produced great crops of corn and peas as well as meadow and pasture. According to Defoe, it was not behind in "Clover, Eaver, and Trefoil Grass and Turnips." All this part of the country was in small enclosures and farms.⁶⁵ A favorite manure in the county and in Cornwall was sea sand, which provided fertility for four successive crops, after which the land went back to grass for six or seven years; the grass included clover and was mown the first year. So good was the reputed quality of the sand that it was sometimes carried on pack horses 12 miles inland, and then mixed in a compost with lime.⁶⁶ There is also some reason to suppose that paring and burning heath and other land as a means of bringing it into cultivation originated in this county, although it is placed by some in Denbigh, because the method was known as "Devonshiring" or

⁶¹ Young, *Farmer's Tour through the East of England*, 3:245, 271-277, 320, 326-384 (1771). On the size of farms, see also [Joseph Wimpey], *Rural Improvements*, 407 ff. (ed. 2, 1775); John Claridge, *General View of the Agriculture in the County of Dorset*, 26 (1793).

⁶² Claridge, *General View . . . of Dorset*, 16-18, 26, 34; William Marshall, *The Rural Economy of the West of England*, 2:131-147 (1796); *Annals of Agriculture*, 28:471-483, 627 (1797); Stevenson, *General View . . . of Surrey*, 187-188, 191-202.

⁶³ Young, *Farmer's Tour through the East of England*, 3:279-280, 330; Stevenson, *General View of . . . Surrey*, 124, 135-141, 165-166.

⁶⁴ Defoe, *Tour*, 2:14, 17.

⁶⁵ *Ibid.*, 1:358.

⁶⁶ Mortimer, *Whole Art of Husbandry*, 82-85; Switzer, *Ichnographia Rustica*, 3:195-196.

"Denshiring." In Devon it yielded heavy crops for three or four years after which the land went back to grass again.⁶⁷ Pococke remarked on the method of plowing across the slope in hilly fields both in this county and in Cornwall in strips about 10 feet wide. These were limed and composted on the higher levels and the rain washed the manure and soil down to the lower, thus making all fertile.⁶⁸

The farming of the county did not meet with very favorable comment in 1785, when it was said that with land very capable of improvement little variation was studied and the use of ameliorating crops was not considered or approved at all. The usual course was wheat, dressed for with lime, barley on one plowing in February, and then laid down with clover and rye grass. The laborers could not be persuaded to hoe turnips, and the tares were not as good as they might have been. The beans were sown in drills, and potatoes and cabbages were cultivated. Four years later a large area near Moretonhampstead was devoted to potatoes, some idea of its size being indicated by the statement that over 1,000 acres had been spoiled by frost. Cabbages were also grown at Paignton for planting all over Devon.⁶⁹

The first reporter on conditions in Devon for the Board of Agriculture did not describe any great change in the county. The South Hams still used the alternate husbandry, the rotation being wheat, barley or oats, and grass; it had excellent water meadows. Paring and burning was sometimes done with a plow and at others with a breastplow or mattock, and manured with the customary compost of lime, earth, and burnt ashes; sea sand was still used on the coast farms and those in the not too remote middle of the county.⁷⁰ Marshall noted much the same situation, except that turnips, although badly cultivated, had been introduced fifty years before, and that, whereas twenty-five years before, all the potatoes were obtained from Moretonhampstead, the crop had become general in his day. The pack horses and sledges noted by the earlier tourists and topographers were falling into disuse.⁷¹ Young visited Devon in 1797 and confirmed the rapid increase of potatoes. The production had multiplied 100-fold in twenty-six years between Axminster and Exeter. He also noted that rents had doubled in twenty years. Some "monopolizing" of farms had taken place, but there were many minute holdings, the cultivators of which were miserably poor. He confirmed what had already been said about the crops and rotations.⁷² William George Maton, who crossed the country in 1794 and again in 1796, remarked on the reclamation of Star Cross, which, although covered with furze at the time of his first visit, produced surprisingly well. He saw women plowing there.⁷³ The second Board of Agriculture report on Devon tells of little further development. Exton of Hartland, a noted improver of the county, drilled his wheat, and clover was sown on part of Branton open field. Turnips were steadily growing

⁶⁷ Switzer, *Ichnographia Rustica*, 3:210-212.

⁶⁸ Pococke, *Journal*, 1:135.

⁶⁹ *Annals of Agriculture*, 4:13-15 (1785); 12:209-211 (1789). See also Martin Dunsford, *Miscellaneous Observations in the Courses of Two Tours . . . West of England*, 28, 117, 130 (1800).

⁷⁰ Robert Fraser, *General View of the County of Devon*, 20-22, 66 (1794).

⁷¹ Marshall, *Rural Economy of the West of England*, 1:101-300.

⁷² *Annals of Agriculture*, 28: 629, 631 (1797); 29:89-93, 96, 98, 313, 427, 562-587 (1797); 30: 81-82, 85, 189-191 (1798). See also Martin Dunsford, *Historical Memoirs of . . . Tiverton*, 270, 278 (1790).

⁷³ William George Maton, *Observations relating chiefly to . . . the Western Counties*, 99 (Salisbury, 1797).

in popularity, and no rye was grown for a crop, although it was believed to have been popular at some earlier date. Few peas and beans were cultivated in the county, but a crop of hops and another of flax were recorded. By 1808, the date of the second report, some improved plows had been introduced to take the place of the common heavy implement made by the local carpenter. The light Dorset swing with a well-curved iron breast was hauled by two horses and did good work; there was also a turnwrest plow and the Norfolk wheel plow which was used in the light loams. Harrows and scarifiers as well as stone rollers were used, and threshing machines were said to be becoming prevalent, a sufficiently vague phrase. There was also the paring plow mentioned above. Wagons and one-horse carts were gradually taking the place of pack horses, although the latter were still used in the hills.⁷⁴

Cornwall was never a country of improved farming, both the physical character of the land and the great industries of mining and fishing making that impossible, even though topographers said that the county had grain for export in plentiful years, enough to supply its own needs in moderate harvests, but had to import supplies in years of famine. Defoe thought it a wild, barren, poor country.⁷⁵ At any rate, the produce of the soil, in oats and barley, its chief grains, was estimated in 1785 to be nearly equal to the pilchard and other fishery.⁷⁶ William Borlase, who repeated the wisecrack of the topographers about the cereal supply, said that the seeds sown were wheat, barley, oats, and rye "besides which, we have the *Avena nuda* of Ray, called in Cornwall pilez, which grows in the poorest croft-land that has been tilled two or three seasons before with potatoes, and for the uses of the poor answers all the purposes of oatmeal." Lime was used in the east of the county in 1758, but marl infrequently, the manurial requirement being supplied by the easily accessible sand, seaweed, straw, and dung. Some decayed pilchards were also used for the purpose. Much less rye was grown than formerly because the barren lands had been sufficiently improved to bear barley. Some of the wheat lands were, he said, very fruitful. Plowing was done with a mixed team of two horses and two oxen "which make but a slow progress," as may readily be believed. It was thought that sainfoin might help the pasture, and turnips had been grown by some gentlemen. The potato was also increasing in popularity.⁷⁷ The farms were very small, not exceeding £30 to £40 and many smaller, there being only one or two large farms in the whole county, and on such small farms the introduction of improved or even new methods was notoriously difficult.⁷⁸

The alternate husbandry was usual in Cornwall at the end of the century, wheat, barley, or oats being taken as long as possible and then eight or ten years of grass. The best farmers raised only wheat and barley and then grass for four years. Paring, burning, and a compost similar to that used in Devon were just as popular as in that county. Some improving farmers had gone in for turnips, but they were badly managed. Potatoes had grown still more popular and many large crops were raised. The waste from

⁷⁴ Charles Vancouver, *General View of the Agriculture of the County of Devon*, 115-126, 139, 149, 151, 152, 156, 157, 169, 170, 171, 179, 183-185, 188, 193, 203, 206 (1808).

⁷⁵ Defoe, *Tour*, 2:20.

⁷⁶ A. Fraser, *Certain Arrangements in Civil Policy*, 6 (1785).

⁷⁷ William Borlase, *The Natural History of Cornwall*, 85-89 (Oxford, 1758). See also Mills, *New and Complete System of Practical Husbandry*, 1:20.

⁷⁸ Robert Fraser, *General View of the County of Cornwall*, 31 (1794); G. B. Worgan, *General View of the Agriculture of the County of Cornwall*, 31 (1815).

fisheries continued to be used for manure.⁷⁹ The mixed teams of horses and oxen had gone out of fashion by the end of the century; two small horses, on the hindmost of which rode a small boy driver, postilion-wise, had been observed by one tourist on a field nearly as steep as the roof of a house, and the fine oxen used for plowing and other draft purposes by another.⁸⁰ The old Cornish plows still held their own, although others had been introduced by 1811, and there was then a great variety of wheel and other carriages. Harrows and rollers of ordinary types were used and threshing machines had become very general (again vague enough). The spade or the breastplow was still used in paring and burning.⁸¹

To Be Continued

⁷⁹ Fraser, *General View . . . of Cornwall*, 33-43; Worgan, *General View . . . of Cornwall*, 53-128; *Annals of Agriculture*, 23:61-62 (1795); 29:431-432 (1797).

⁸⁰ George Lipscomb, *A Journey into Cornwall*, 202 (Warwick, 1799); R. Warner, *A Tour through Cornwall*, 83 (1809).

⁸¹ Worgan, *General View . . . of Cornwall*, 37, 42, 43, 119.

NEWS NOTES AND COMMENTS

THE 1941 ANNUAL MEETING OF THE AGRICULTURAL HISTORY SOCIETY

The Society held its 1941 annual meeting at Naylor's Restaurant, 10th Street and Maine Avenue, S.W., in Washington, D. C., on the evening of June 3. The program was opened with color motion pictures made and shown by Dr. Arthur G. Peterson. Professor Wendell H. Stephenson of Louisiana State University then delivered his presidential address on "Ante Bellum New Orleans as an Agricultural Focus."

The annual business meeting began with the report of the secretary-treasurer, Dr. Arthur G. Peterson. With exchanges excluded, the membership as of May 1 was 391 or 2 more than a year earlier. The Society lost three of its noted members in the death of Dr. Carl L. Alsberg, director of the Giannini Foundation at the University of California, Mr. Nils A. Olsen, former chief of the U. S. Bureau of Agricultural Economics, and Dr. Joseph Schafer, superintendent of the State Historical Society of Wisconsin. Thirty-five additions to the membership more than offset the loss of 19 through resignation and 11 dropped for non-payment of dues. Twenty-six exchanges, an increase of three, brought the mailing list to 417 compared with 412 on May 1, 1940.

The secretary-treasurer reiterated his prediction of the last two years, that on the basis of past performance, the Society will be clear of debt by the end of 1942. The net indebtedness as of December 31, 1940 was \$612 as compared with \$1,332 two years earlier.

The auditing committee consisting of Dr. T. C. Schellenberg (chairman), Miss Emily E. Clark, and Dr. Herbert A. Smith commended the secretary-treasurer on his work and a motion to accept the report was passed.

In the absence of Dr. Carleton R. Ball, chairman of the Museum committee, Mr. Everett E. Edwards read the committee's report which indicated considerable enthusiasm by the editors of more than fifty

agricultural periodicals to whom communications concerning the need for a national agricultural museum had been addressed. The sense of the committee was that although the current national emergency precluded early favorable action by Congress, a start toward the objective could be made by the accumulation of suitable materials. The committee reported that it had canvassed the means of securing financial support for such action but without success. The report was accepted and the incoming president was authorized to correspond with Dr. Ball concerning his desire to retire as chairman.

Mr. Everett E. Edwards then reported informally on the progress of the special committee on the duplication of historical materials, and it was voted to continue this committee.

The report of the special committee on the constitution and bylaws was discussed at length. The revised constitution as presented by the committee was approved by the membership, with the exception of Article IV, relating to officers, which was resubmitted to the committee for further attention.

By unanimous vote of the membership, the following were elected as officers of the Society during 1941-42: president, Professor Harry J. Carman, Columbia University; vice president, Professor John D. Hicks, University of Wisconsin; secretary-treasurer, Dr. Arthur G. Peterson, U. S. Bureau of Agricultural Economics; executive committee, Dr. L. C. Gray, U. S. Bureau of Agricultural Economics, and Professor Frederick Merk, Harvard University. This election is in accord with the recommendations of the nominating committee consisting of Dr. Arthur J. Larsen, superintendent of the Minnesota Historical Society (chairman); Dr. Joseph S. Davis, Stanford University; Dr. Walter H. Ebling, Agricultural Marketing Service, U. S. Department of Agriculture, Madison, Wisconsin; Dr. Paul H. Johnstone, U. S. Bureau of Agricultural

Economics; and Dr. Lazar Volin, U. S. Office of Foreign Agricultural Relations.—
Thomas J. Mayock.

NEW MEMBERSHIP FEATURES

The bylaws of the Agricultural History Society as adopted at the annual meeting on June 3, 1941, provide for the following new features concerning memberships. Student memberships may be granted to *bona fide* students between 18 and 25 years of age for \$1.50. Life memberships may be granted to individuals for \$100, inclusive of all previous payments of dues and contributions, or for a sum in dollars equivalent to 100 less the age of the applicant at his last birthday, exclusive of prior dues and contributions. Optional joint-membership dues with similar associations may be established by the executive committee.

SECRETARY-TREASURER'S FINANCIAL STATEMENT, MAY 1, 1940-APRIL 30, 1941

Balance on hand, May 1, 1940... \$292.94
(The balance of \$334.94 reported for the previous year included a deposit of a State treasury warrant for \$42 that was not paid until 1941.)

Receipts:

Membership dues

1939..... \$24.00
1940..... 142.00
1941..... 784.07
1942..... 4.70
Life and contributing . 55.13

\$1,009.90

Back number sales ... 140.00

Reprint sales..... 58.00

Overpayments (refunded)..... 2.80

Total receipts..... \$1,210.70

Total to be accounted for ... 1,503.64

Disbursements:

Printing and other expenses for 2 numbers of *Agricultural History* and payments on earlier printing bills..... \$834.87

Stationery and postage.....	39.30
Freight charges	3.50
Certified copy of Articles of Incorporation.....	2.10
Mimeographing and printing notices and programs.....	13.69
Refund for overpayment.....	.50
Total disbursements.....	\$893.96
Balance on hand, April 30, 1941...	\$609.68

The net indebtedness of the Society at the end of 1941, after payment for the 1941 numbers of *Agricultural History*, is estimated at about \$300.

DECEMBER MEETINGS OF THE SOCIETY

The Agricultural History Society will hold its customary joint sessions with the American Historical Association during the last week of December in Chicago. The literary session will be devoted to a series of three papers on the "Agricultural Frontiers in the United States." Dr. Rodney C. Loehr of the University of Minnesota will speak on "Moving Back from the Atlantic Seaboard"; Dr. Russell H. Anderson of the Museum of Science and Industry, Chicago, on "Advancing Across the Eastern Mississippi Valley"; and Dr. Everett Dick of Union College, on "Going Beyond the 95th Meridian." The plans for the luncheon session are not yet completed.

CURRENT WRITINGS ON AMERICAN AGRICULTURAL HISTORY

General or unclassified: Gladys Baker, *The County Agent* (Chicago, Univ. Chicago Press, 1939, 226 p.). M. K. Bennett, "Wheat and War, 1914-18 and Now," *Food Res. Inst., Wheat Studies* 16(3):65-112 (Stanford University, Calif., November 1939). Ralph H. Brown, "The First Century of Meteorological Data in America," *Monthly Weather Rev.*, 68:130-133 (May 1940). E. G. Cheyney and T. Schantz-Hansen, *This is Our Land: The Story of Conservation in the United States* (St. Paul, Webb Pub. Co., 1940, 337 p., illus.). Rich-

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